**Figure 1**

n=3-6 +/- SEM

PRIME

1. ▲ DNA.HBs i.m.
2. ○ Nil
3. ● DNA.HBs i.m.
4. □ DNA.HBs i.m.
5. ■ DNA.HBs i.m.
6. × DNA.HBs i.m.
7. * Naïve

BOOST

- MVA.HBs i.v.
- Engerix-B s.c.
- MVA.HBs + Engerix-B s.c.
- MVA.HBs i.v. + Engerix-B s.c.
- Engerix-B s.c.
- MVA.HBs + Alum s.c.

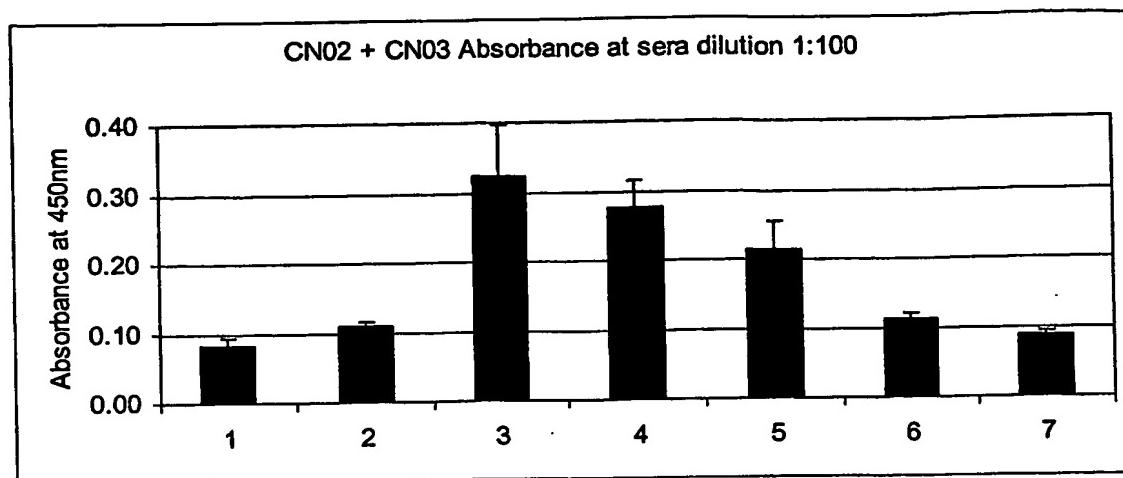


Figure 2

n=3-6 +/- SEM

PRIME

1. DNA.HBs i.m.
2. Nil
3. DNA.HBs i.m.
4. DNA.HBs i.m.
5. DNA.HBs i.m.
6. DNA.HBs i.m.
7. Naïve

BOOST

- MVA.HBs i.v.
Engerix-B s.c.
MVA.HBs + Engerix-B s.c.
MVA.HBs i.v. Engerix-B s.c.
Engerix-B s.c.
MVA.HBs + Alum s.c.

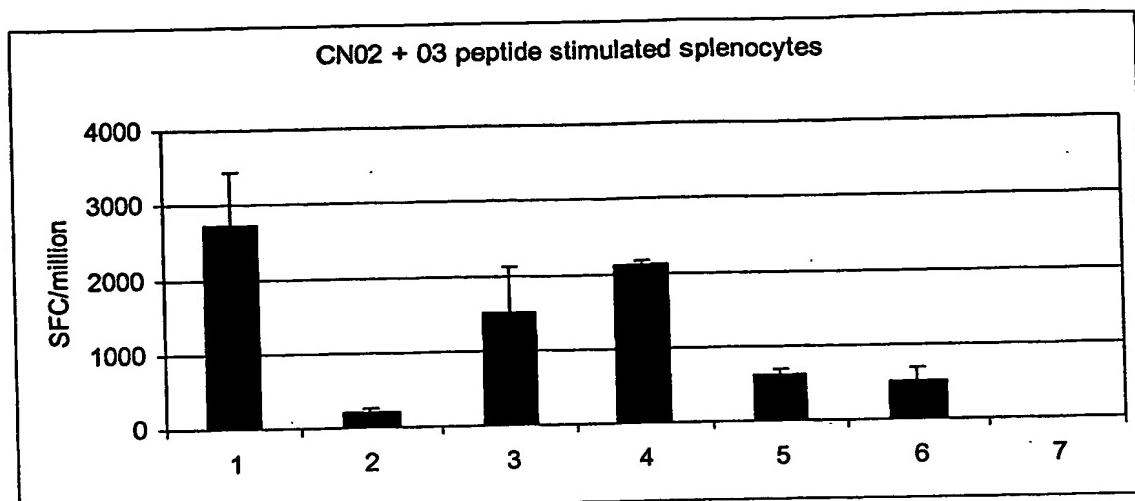


Figure 3

n=3-6 +/- SEM

PRIME

1. DNA.HBs i.m.
2. Nil
3. DNA.HBs i.m.
4. DNA.HBs i.m.
5. DNA.HBs i.m.
6. DNA.HBs i.m.
7. Naïve

BOOST

- MVA.HBs i.v.
- Engerix-B s.c.
- MVA.HBs + Engerix-B s.c.
- MVA.HBs i.v. Engerix-B s.c.
- Engerix-B s.c.
- MVA.HBs + Alum s.c.

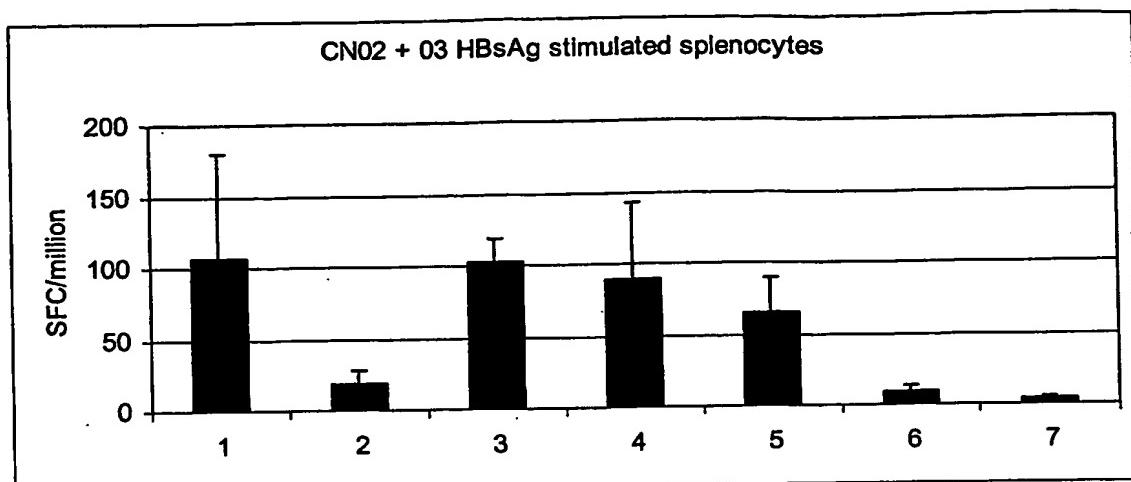


Figure 4

n=3-6 +/- SEM

PRIME

1. DNA.HBs i.m.
2. Nil
3. DNA.HBs i.m.
4. DNA.HBs i.m.
5. DNA.HBs i.m.
6. DNA.HBs i.m.
7. Naïve

BOOST

- MVA.HBs i.v.
- Engerix-B s.c.
- MVA.HBs + Engerix-B s.c.
- MVA.HBs i.v. Engerix-B s.c.
- Engerix-B s.c.
- MVA.HBs + Alum s.c.

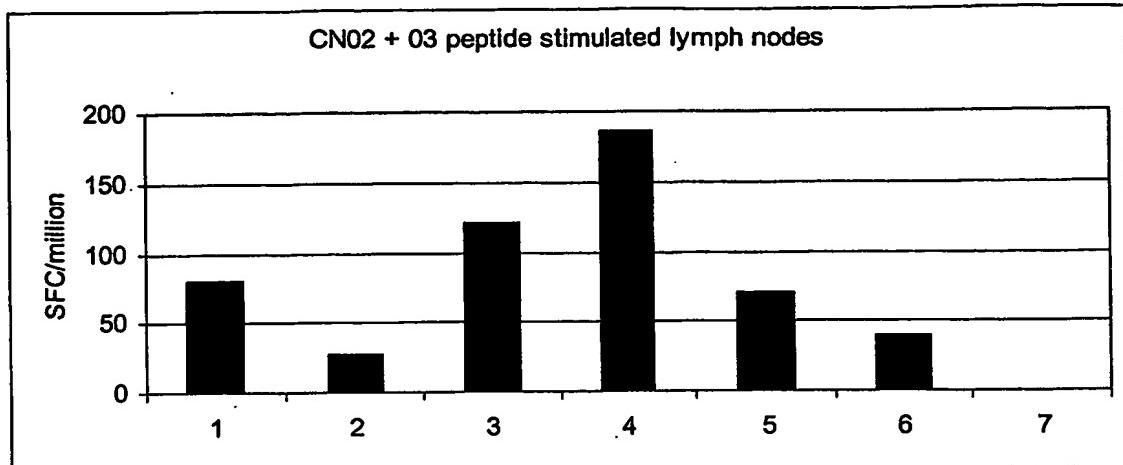


Figure 5

n= cells from 3-6 animals pooled

PRIME

1. DNA.HBs i.m.
2. Nil
3. DNA.HBs i.m.
4. DNA.HBs i.m.
5. DNA.HBs i.m.
6. DNA.HBs i.m.
7. Naïve

BOOST

- MVA.HBs i.v.
Engerix-B s.c.
MVA.HBs + Engerix-B s.c.
MVA.HBs i.v. Engerix-B s.c.
Engerix-B s.c.
MVA.HBs + Alum s.c.

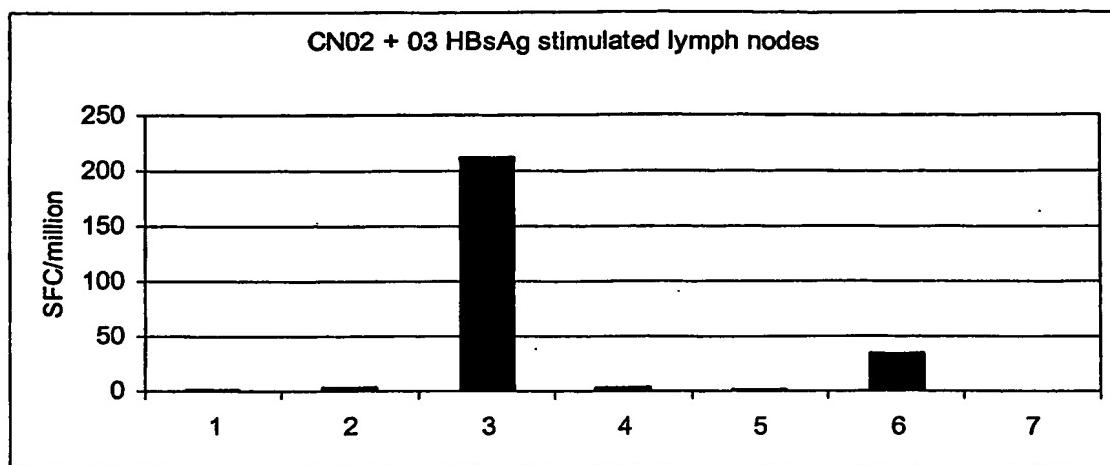


Figure 6

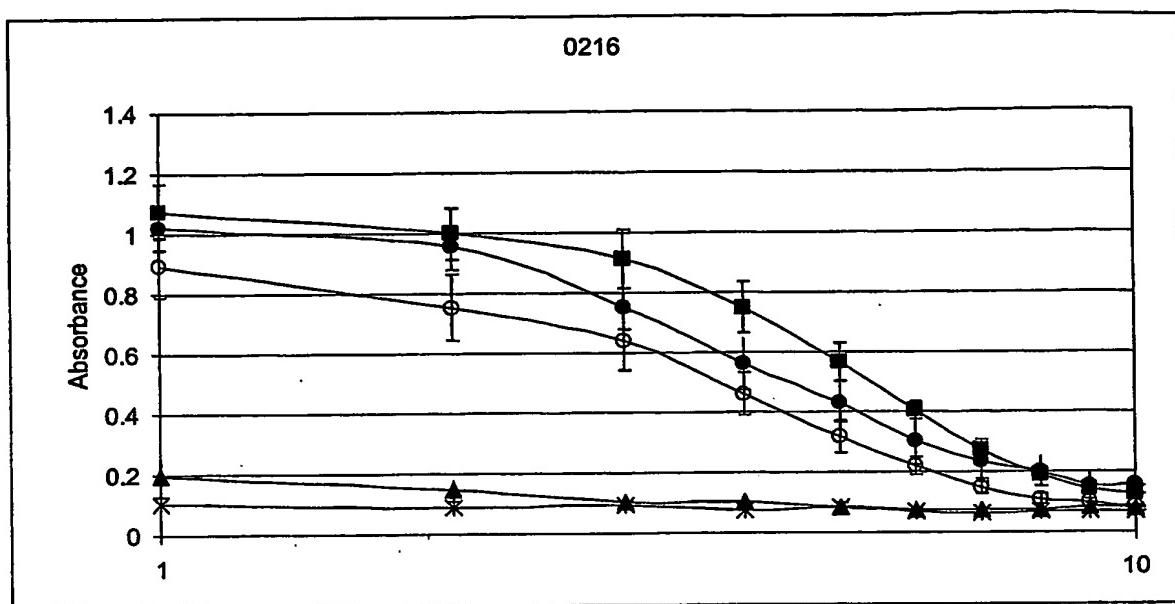
n= cells from 3-6 animals pooled

PRIME

1. DNA.HBs i.m.
2. Nil
3. DNA.HBs i.m.
4. DNA.HBs i.m.
5. DNA.HBs i.m.
6. DNA.HBs i.m.
7. Naïve

BOOST

- MVA.HBs i.v.
Engerix-B s.c.
MVA.HBs + Engerix-B s.c.
MVA.HBs i.v. Engerix-B s.c.
Engerix-B s.c.
MVA.HBs + Alum s.c.

**Figure 7**

n=5 +/- SEM

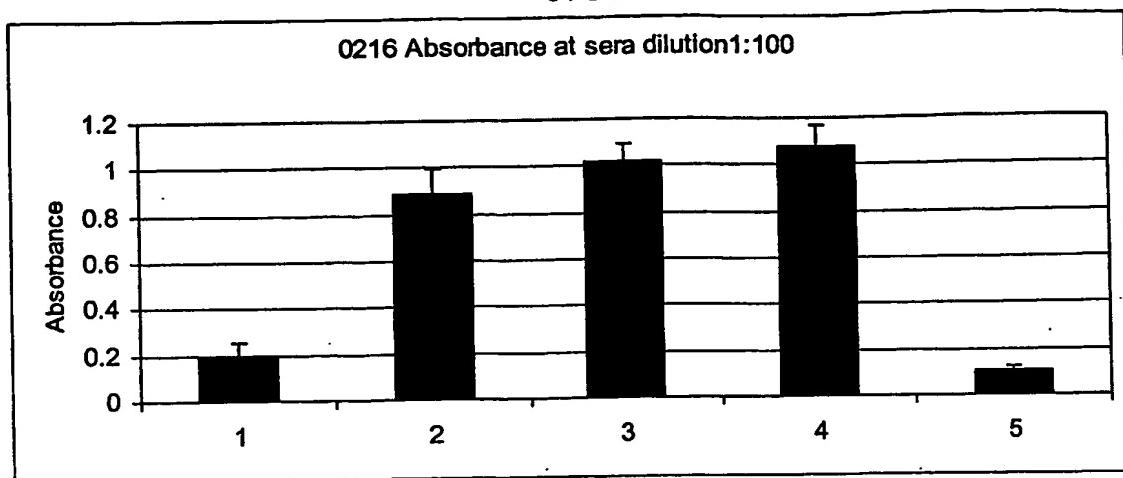
PRIME

- ▲ DNA.HBs
- DNA.HBs i.m. Engerix s.c.
- DNA.HBs i.m. Engerix s.c.
- DNA.HBs i.m. Engerix s.c.
- * Naive

BOOST

- MVA.HBs i.d.
- MVA.HBs s.c. Engerix s.c.
- MVA.HBs i.d. Engerix s.c.
- MVA.lacZ s.c. Engerix s.c.

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**Figure 8**

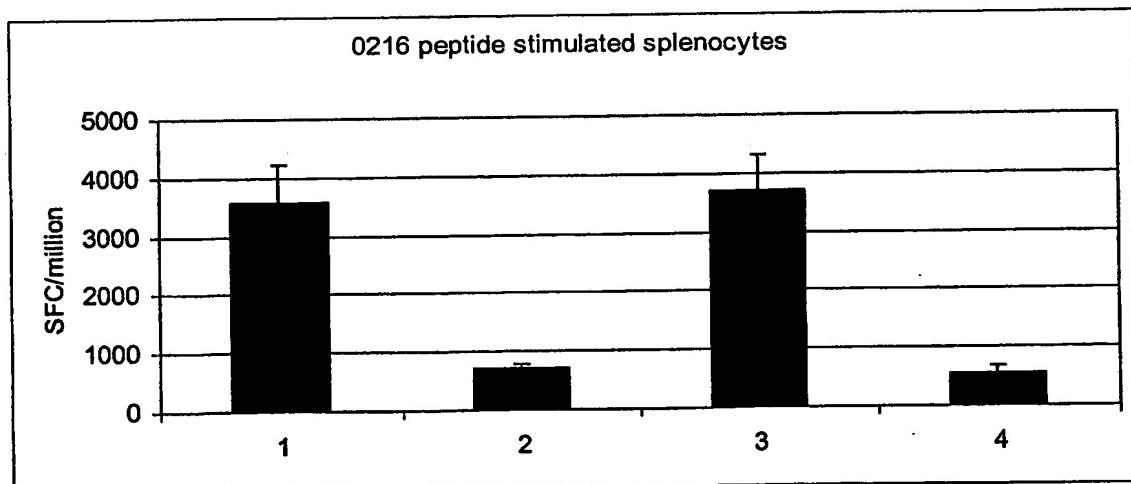
n=5 +/- SEM

PRIME

- 1.DNA.HBs
- 2.DNA.HBs i.m. Engerix s.c.
3. DNA.HBs i.m. Engerix s.c.
4. DNA.HBs i.m. Engerix s.c.
5. Naive

BOOST

- MVA.HBs i.d.
- MVA.HBs s.c. Engerix s.c.
- MVA.HBs i.d. Engerix s.c.
- MVA.lacZ s.c. Engerix s.c.

**Figure 9**

n=5 +/- SEM

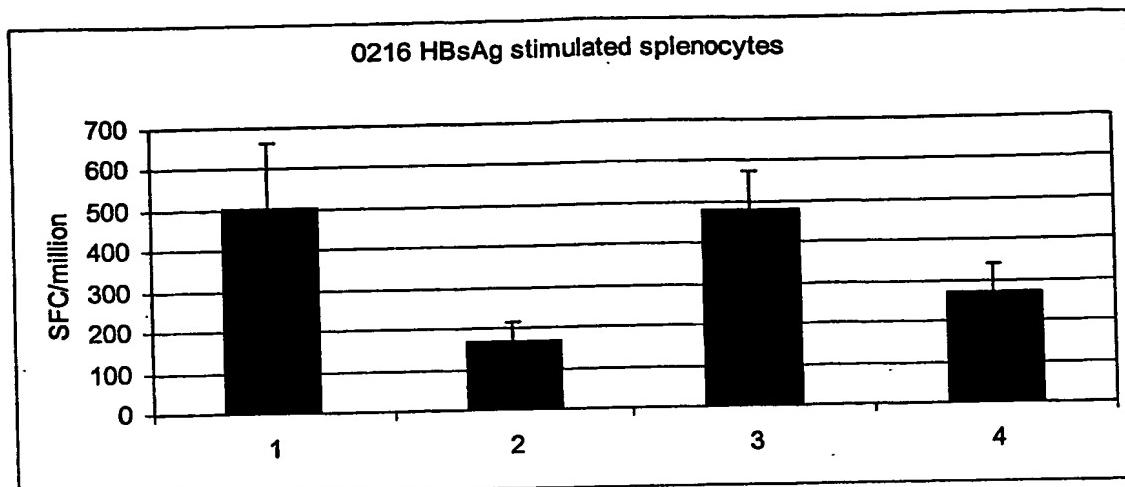
PRIME

- 1.DNA.HBs
- 2.DNA.HBs i.m. Engerix s.c.
3. DNA.HBs i.m. Engerix s.c.
4. DNA.HBs i.m. Engerix s.c.

BOOST

- MVA.HBs i.d.
- MVA.HBs s.c. Engerix s.c.
- MVA.HBs i.d. Engerix s.c.
- MVA.lacZ s.c. Engerix s.c.

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**Figure 10**

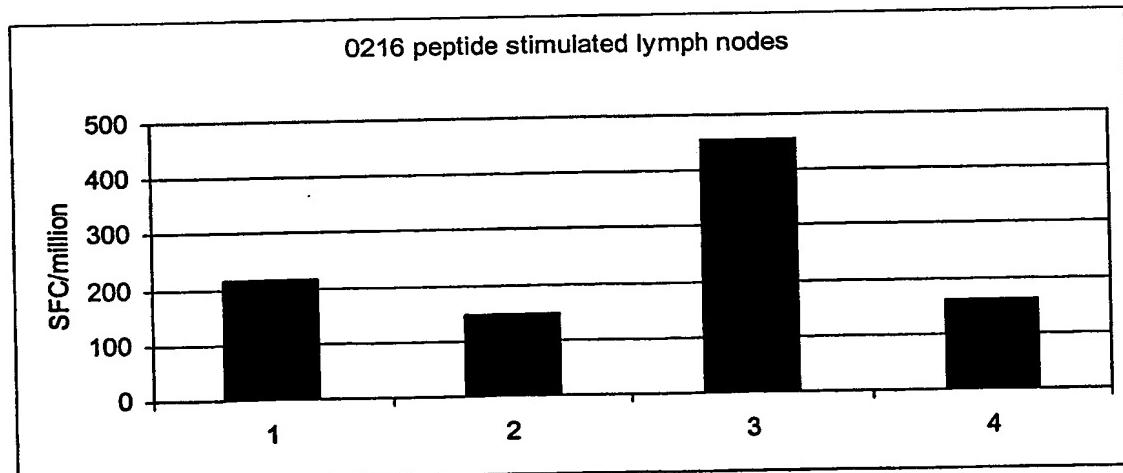
n=5 +/- SEM

PRIME

- 1.DNA.HBs
- 2.DNA.HBs i.m. Engerix s.c.
3. DNA.HBs i.m. Engerix s.c.
4. DNA.HBs i.m. Engerix s.c.

BOOST

- MVA.HBs i.d.
- MVA.HBs s.c. Engerix s.c.
- MVA.HBs i.d. Engerix s.c.
- MVA.lacZ s.c. Engerix s.c.

**Figure 11**

n= cells from 5 animals pooled

PRIME

- 1.DNA.HBs
- 2.DNA.HBs i.m. Engerix s.c.
3. DNA.HBs i.m. Engerix s.c.
4. DNA.HBs i.m. Engerix s.c.

BOOST

- MVA.HBs i.d.
- MVA.HBs s.c. Engerix s.c.
- MVA.HBs i.d. Engerix s.c.
- MVA.lacZ s.c. Engerix s.c.

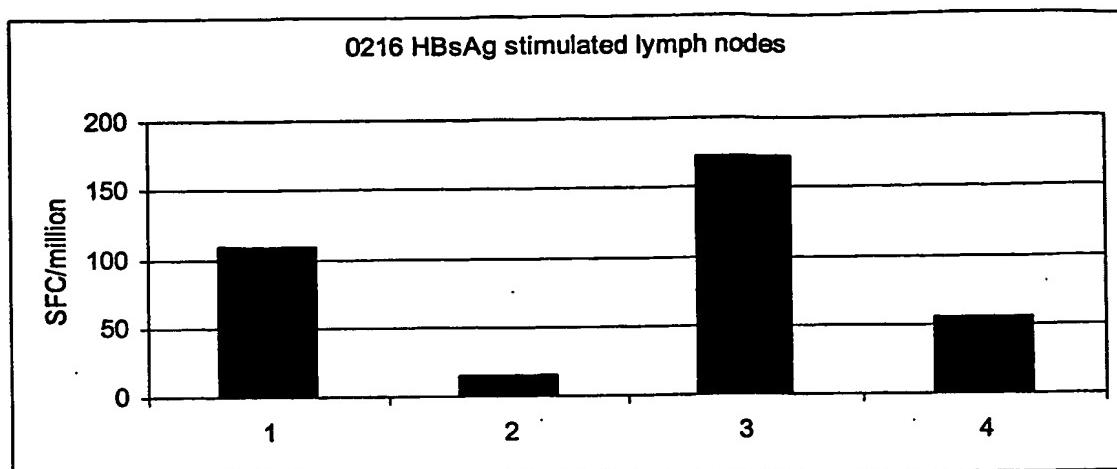


Figure 12

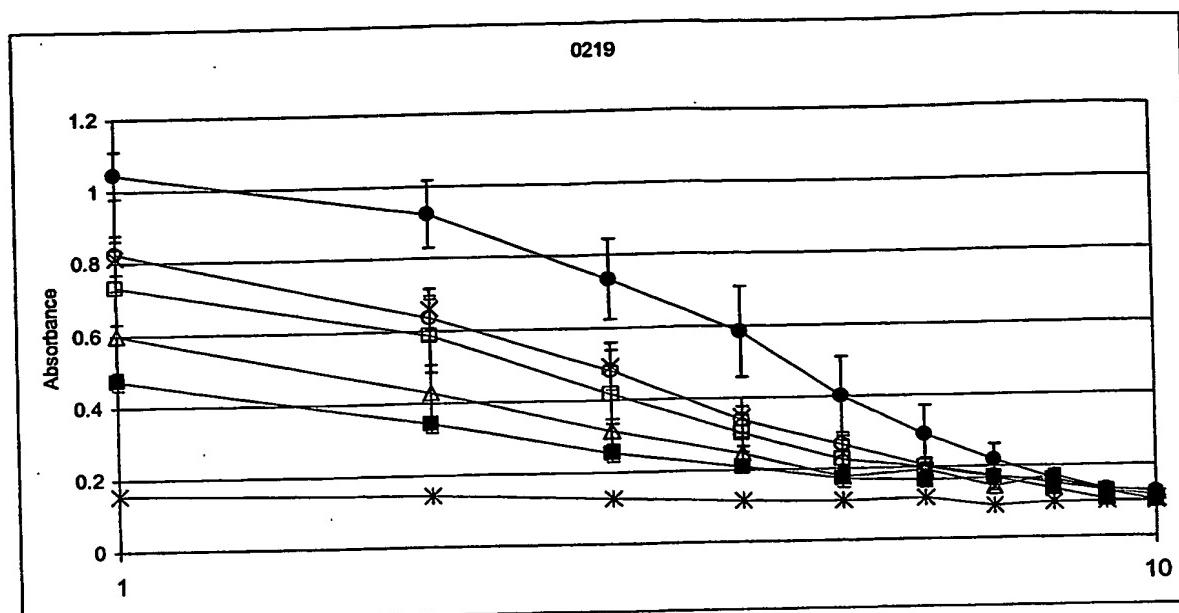
n= cells from 5 animals pooled

PRIME

- 1.DNA.HBs
- 2.DNA.HBs i.m. Engerix s.c.
3. DNA.HBs i.m. Engerix s.c.
4. DNA.HBs i.m. Engerix s.c.

BOOST

- MVA.HBs i.d.
- MVA.HBs s.c. Engerix s.c.
- MVA.HBs i.d. Engerix s.c.
- MVA.lacZ s.c. Engerix s.c.

**Figure 13**

n=4 +/- SEM

PRIME

- ▲ HbsAg s.c.
- HbsAg i.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Engerix-B s.c. MVA.LacZ i.d.
- × Engerix-B + MVA.LacZ mix s.c.
- * Naïve

BOOST

- HbsAg s.c.
- HbsAg i.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Eng-B s.c. MVA.LacZ i.d.
- Eng-B + MVA.LacZ mix s.c.

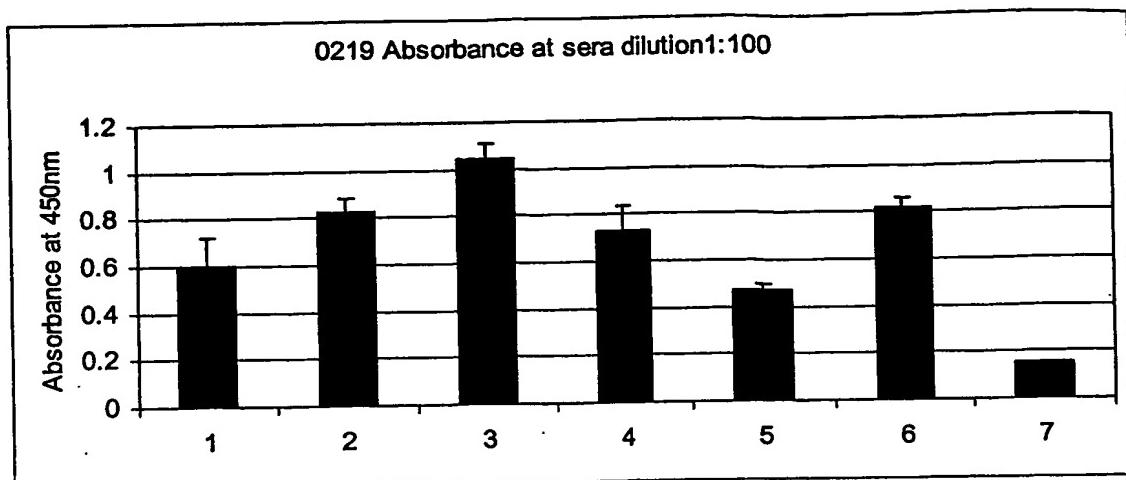


Figure 14

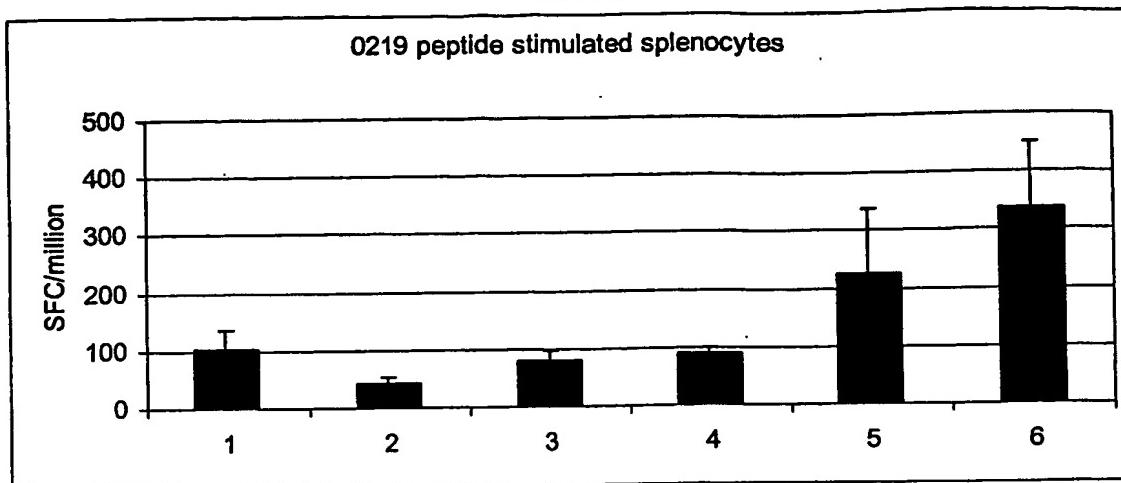
n=4 +/- SEM

PRIME

- 1.HbsAg s.c.
- 2.HbsAg i.d.
- 3.HbsAg + MVA.LacZ mixed i.d.
- 4.Engerix-B s.c.
- 5.Eng-B s.c. MVA.LacZ i.d.
- 6.Eng-B + MVA.LacZ mix s.c.
- 7.Naïve

BOOST

- HbsAg s.c.
- HbsAg i.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Eng-B s.c. MVA.LacZ i.d.
- Eng-B + MVA.LacZ mix s.c.

**Figure 15**

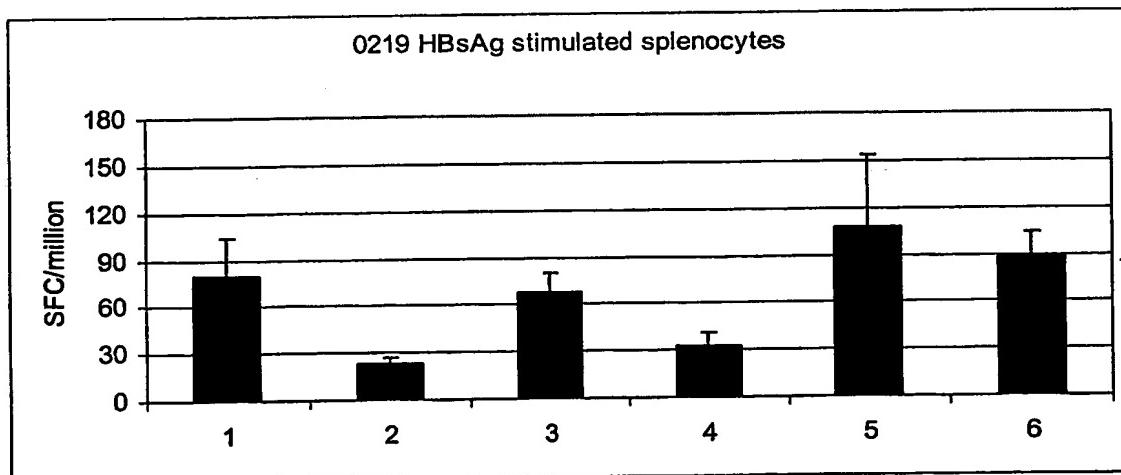
n=4 +/- SEM

PRIME

- 1.HbsAg s.c.
- 2.HbsAg i.d.
- 3.HbsAg + MVA.LacZ mixed i.d.
- 4.Engerix-B s.c.
- 5.Eng-B s.c. MVA.LacZ i.d.
- 6.Eng-B + MVA.LacZ mix s.c.

BOOST

- HbsAg s.c.
- HbsAg i.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Eng-B s.c. MVA.LacZ i.d.
- Eng-B + MVA.LacZ mix s.c.

**Figure 16**

n=4 +/- SEM

PRIME

- 1.HbsAg s.c.
- 2.HbsAg i.d.
- 3.HbsAg + MVA.LacZ mixed i.d.
- 4.Engerix-B s.c.
- 5.Eng-B s.c. MVA.LacZ i.d.
- 6.Eng-B + MVA.LacZ mix s.c.

BOOST

- HbsAg s.c.
- HbsAg i.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Eng-B s.c. MVA.LacZ i.d.
- Eng-B + MVA.LacZ mix s.c.

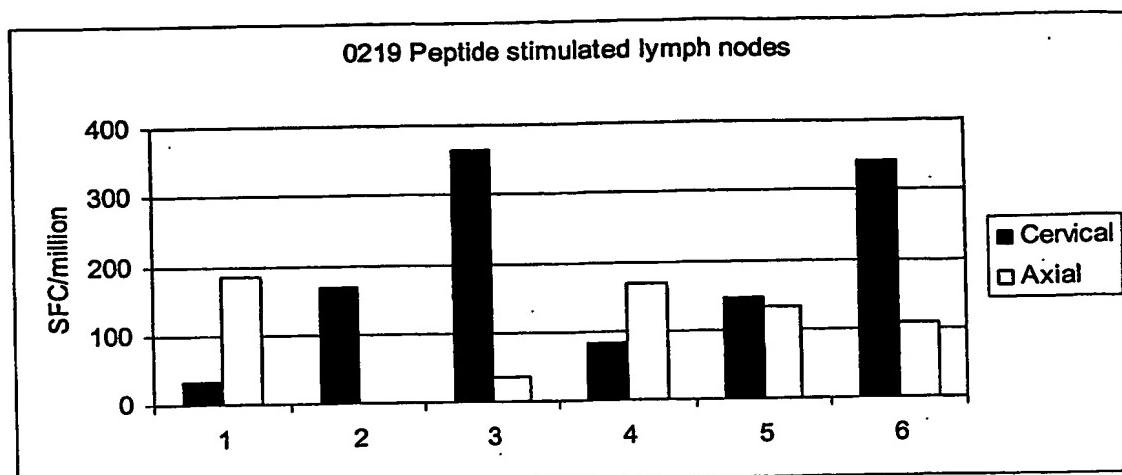


Figure 17
n= cells from 4 animals pooled

PRIME

- 1.HbsAg s.c.
- 2.HbsAg i.d.
- 3.HbsAg + MVA.LacZ mixed i.d.
- 4.Engerix-B s.c.
- 5.Eng-B s.c. MVA.LacZ i.d.
- 6.Eng-B + MVA.LacZ mix s.c.

BOOST

- HbsAg s.c.
- HbsAg i.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Eng-B s.c. MVA.LacZ i.d.
- Eng-B + MVA.LacZ mix s.c.

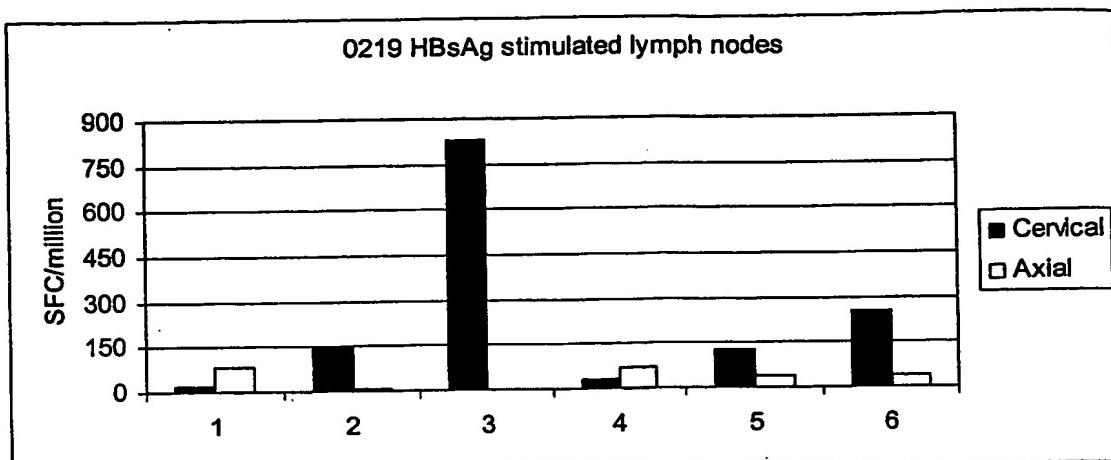


Figure 18

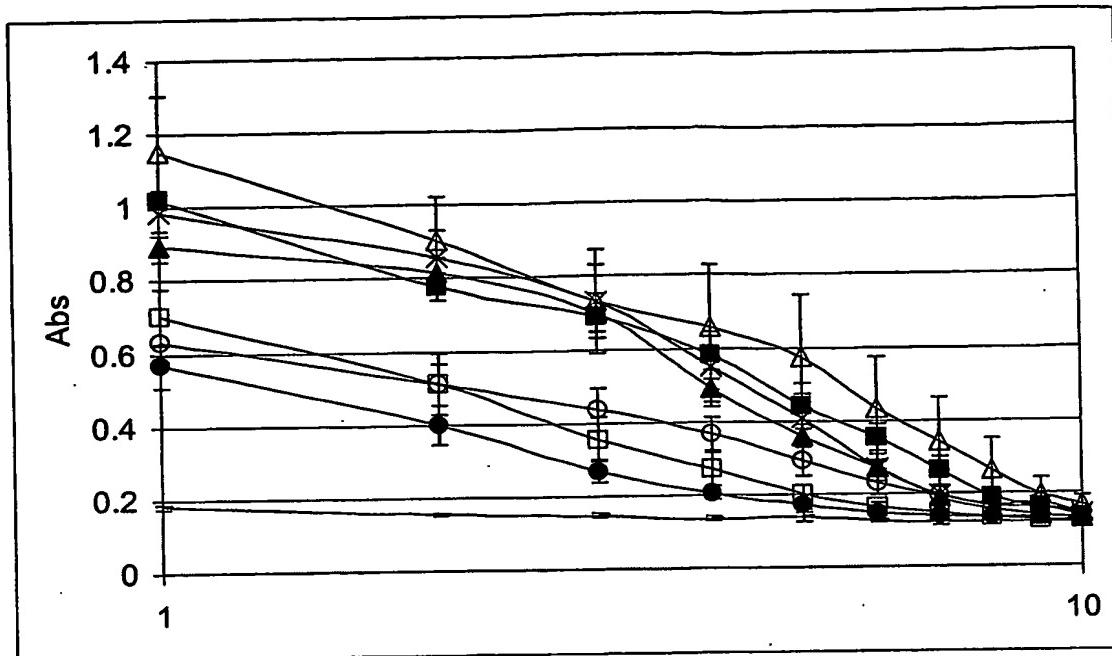
n= cells from 4 animals pooled

PRIME

- 1.HBsAg s.c.
- 2.HBsAg i.d.
- 3.HBsAg + MVA.LacZ mixed i.d.
- 4.Engerix-B s.c.
- 5.Eng-B s.c. MVA.LacZ i.d.
- 6.Eng-B + MVA.LacZ mix s.c.

BOOST

- HbsAg s.c.
- HbsAg i.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Eng-B s.c. MVA.LacZ i.d.
- Eng-B + MVA.LacZ mix s.c.

**Figure 19**

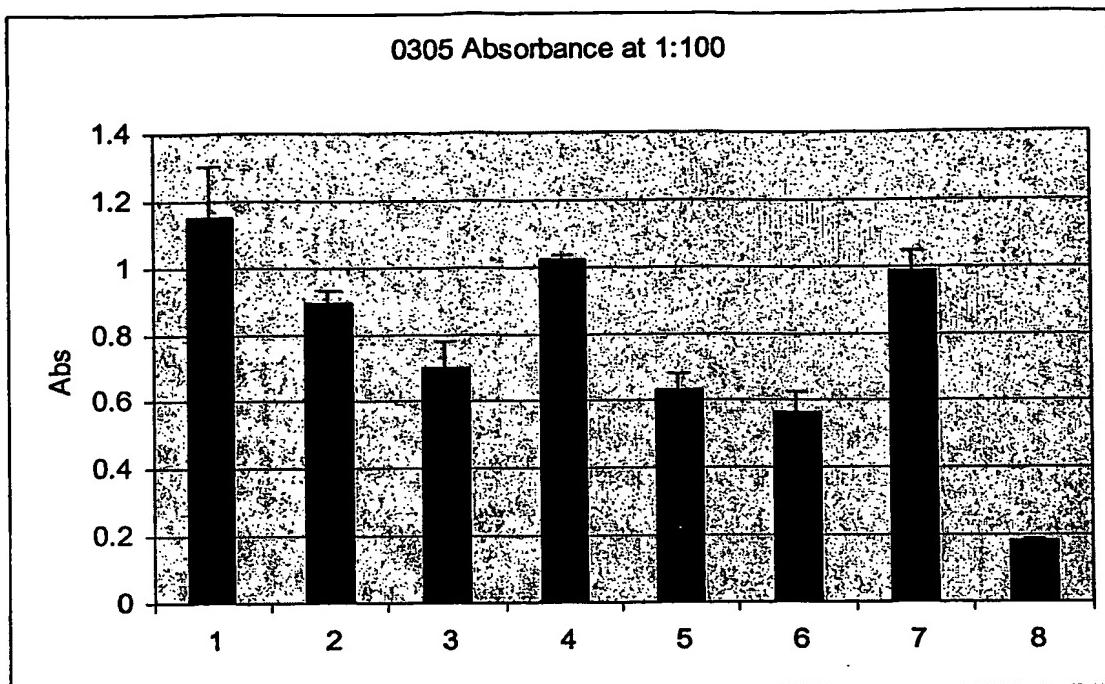
n=4 +/- SEM

PRIME

- Δ HBsAg + MVA.HBs mix i.d.
- ▲ DNA.HBs + HBsAg mix i.d.
- Engerix-B 5ug s.c.
- DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
- DNA.HBs i.m. & HBsAg i.d..
- DNA.HBs i.m. & Engerix-B s.c.
- * HBsAg + MVA.LacZ mix i.d.
- Naive

BOOST

- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B 5ug s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B s.c. + MVA.HBs i.d.
- HBsAg + FP9.LacZ mix i.d.

**Figure 20**

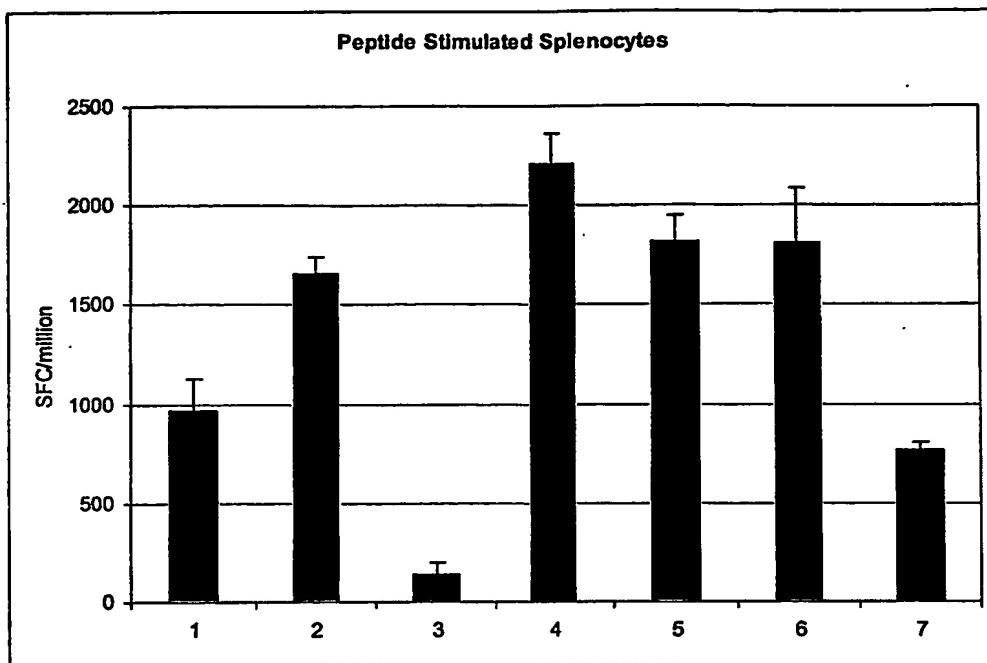
n=4 +/- SEM

PRIME

- 1 HBsAg + MVA.HBs mix i.d.
- 2 DNA.HBs + HBsAg mix i.d.
- 3 Engerix-B 5ug s.c.
- 4 DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
- 5 DNA.HBs i.m. & HBsAg i.d.
- 6 DNA.HBs i.m. & Engerix-B s.c.
- 7 HBsAg + MVA.LacZ mix i.d.
8. Naive

BOOST

- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B 5ug s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B s.c. + MVA.HBs i.d.
- HBsAg + FP9.LacZ mix i.d.

**Figure 21**

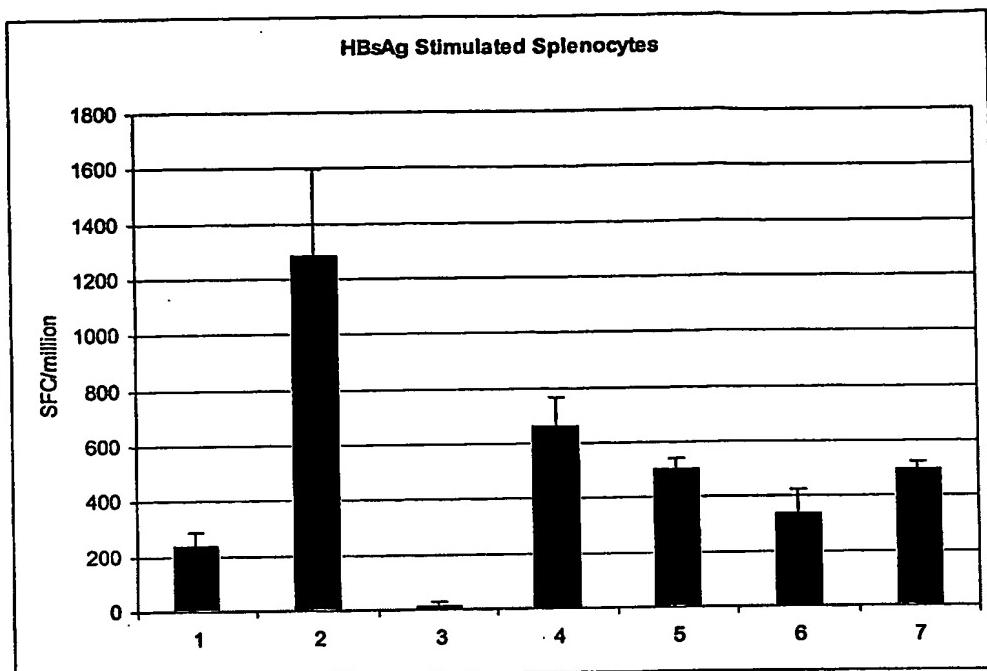
n=4 +/- SEM

PRIME

- 1 HBsAg + MVA.HBs mix i.d.
- 2 DNA.HBs + HBsAg mix i.d.
- 3 Engerix-B 5ug s.c.
- 4 DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
- 5 DNA.HBs i.m. & HBsAg i.d.
- 6 DNA.HBs i.m. & Engerix-B s.c.
- 7 HBsAg + MVA.LacZ mix i.d.

BOOST

- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B 5ug s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B s.c. + MVA.HBs i.d.
- HBsAg + FP9.LacZ mix i.d.

**Figure 22**

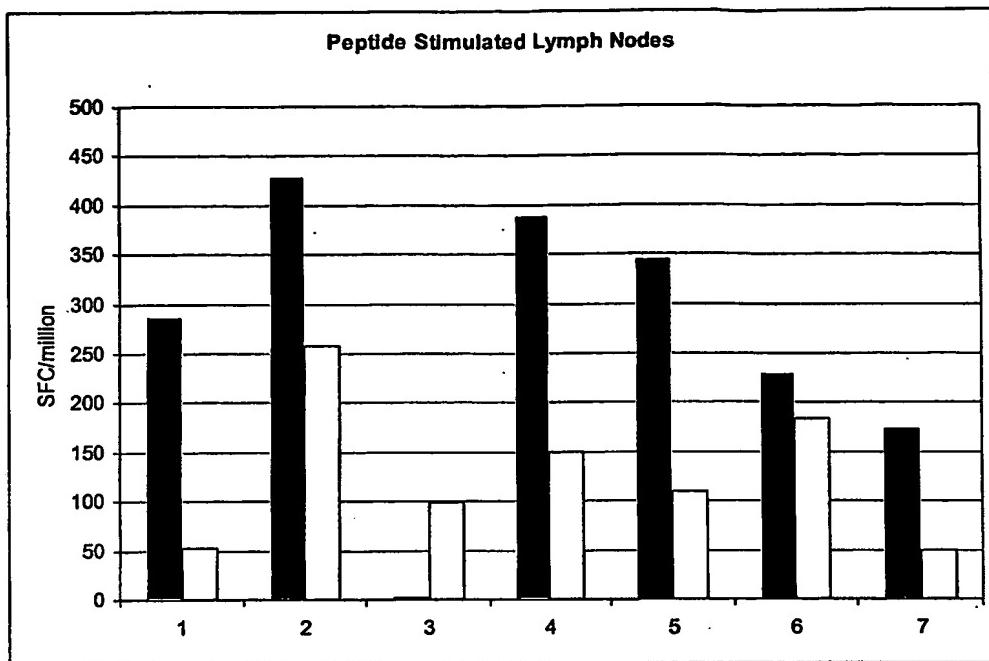
n=4 +/- SEM

PRIME

- 1 HBsAg + MVA.HBs mix i.d.
- 2 HBsAg + pSG2.HBs mix i.d.
- 3 Engerix-B 5ug s.c.
- 4 DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
- 5 DNA.HBs i.m. & HBsAg i.d.
- 6 DNA.HBs i.m. & Engerix-B s.c.
- 7 HBsAg + MVA.LacZ mix i.d.

BOOST

- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B 5ug s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B s.c. + MVA.HBs i.d.
- HBsAg + FP9.LacZ mix i.d.

**Figure 23**

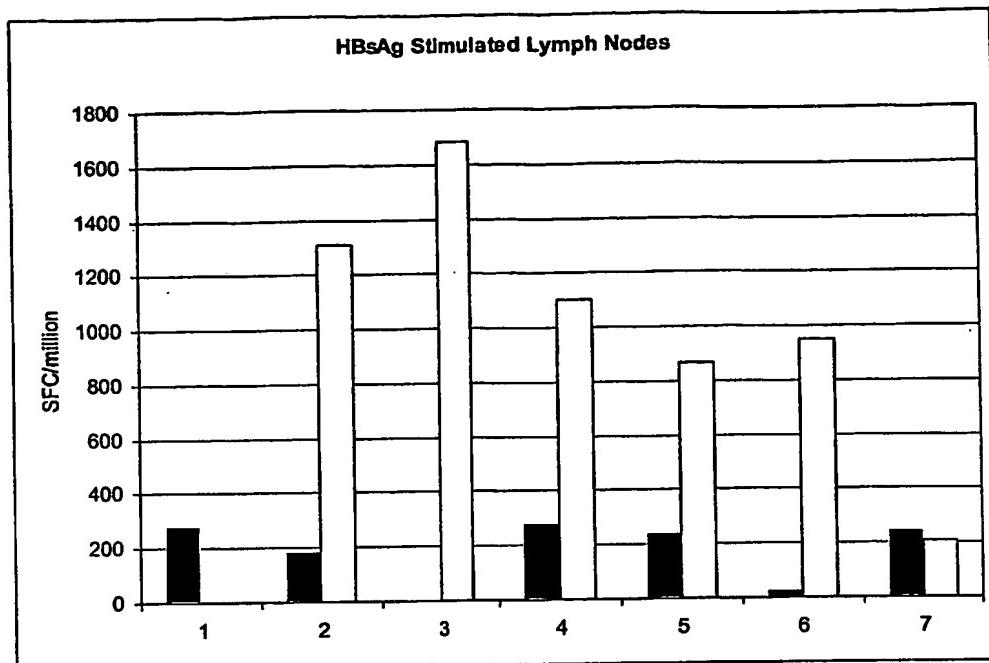
n= cells from 4 animals pooled

PRIME

- 1 HBsAg + MVA.HBs mix i.d.
- 2 DNA.HBs + HBsAg mix i.d.
- 3 Engerix-B 5ug s.c.
- 4 DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
- 5 DNA.HBs i.m. & HBsAg i.d.
- 6 DNA.HBs i.m. & Engerix-B s.c.
- 7 HBsAg + MVA.LacZ mix i.d.

BOOST

- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B 5ug s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B s.c. + MVA.HBs i.d.
- HBsAg + FP9.LacZ mix i.d.

**Figure 24**

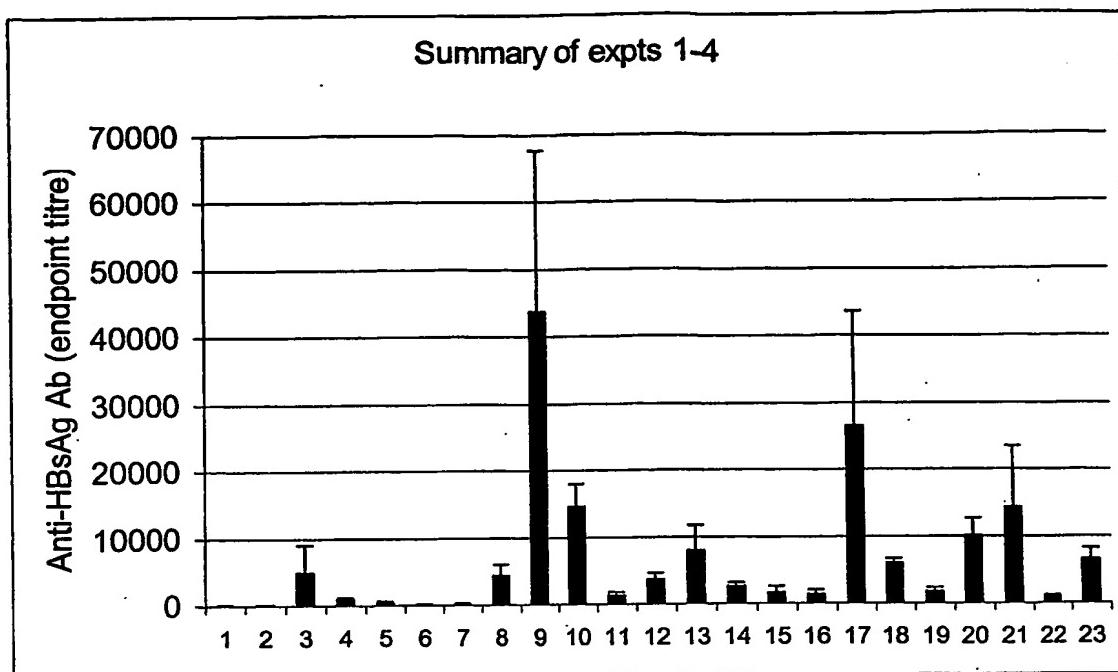
n= cells from 4 animals pooled

PRIME

- 1 HBsAg + MVA.HBs mix i.d.
- 2 DNA.HBs + HBsAg mix i.d.
- 3 Engerix-B 5ug s.c.
- 4 DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
- 5 DNA.HBs i.m. & HBsAg i.d.
- 6 DNA.HBs i.m. & Engerix-B s.c.
- 7 HBsAg + MVA.LacZ mix i.d.

BOOST

- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B 5ug s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- MVA.HBs i.d. + Engerix-B s.c.
- HBsAg + FP9.LacZ mix i.d.

**Figure 25**

n=3-6 +/- SEM

PRIME

1. DNA.HBs i.m.
2. Nil
3. DNA.HBs i.m.
4. DNA.HBs i.m.
5. DNA.HBs i.m.
6. DNA.HBs i.m.
7. DNA.HBs
8. DNA.HBs i.m. Engerix s.c.
9. DNA.HBs i.m. Engerix s.c.
10. DNA.HBs i.m. Engerix s.c.
11. HbsAg s.c.
12. HbsAg I.d.
13. HbsAg + MVA.LacZ mixed i.d.
14. Engerix-B s.c.
15. Eng-B s.c. MVA.LacZ i.d.
16. Eng-B + MVA.LacZ mix s.c.
17. HBsAg + MVA.HBs mix i.d.
18. HBsAg + pSG2.HBs mix i.d.
19. Engerix-B 5ug s.c.
20. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
21. DNA.HBs i.m. & HBsAg i.d.
22. DNA.HBs i.m. & Engerix-B s.c.
23. HBsAg + MVA.LacZ mix i.d.

BOOST

- MVA.HBs i.v.
- Engerix-B s.c.
- MVA.HBs + Engerix-B s.c.
- MVA.HBs i.v. Engerix-B s.c.
- Engerix-B s.c.
- MVA.HBs + Alum s.c.
- MVA.HBs i.d.
- MVA.HBs s.c. Engerix s.c.
- MVA.HBs i.d. Engerix s.c.
- MVA.lacZ s.c. Engerix s.c.
- HbsAg s.c.
- HbsAg I.d.
- HbsAg + MVA.LacZ mixed i.d.
- Engerix-B s.c.
- Eng-B s.c. MVA.LacZ i.d.
- Eng-B + MVA.LacZ mix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- Engerix-B 5ug s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- MVA.HBs i.d. + Engerix-B s.c.
- HBsAg + FP9.LacZ mix i.d.

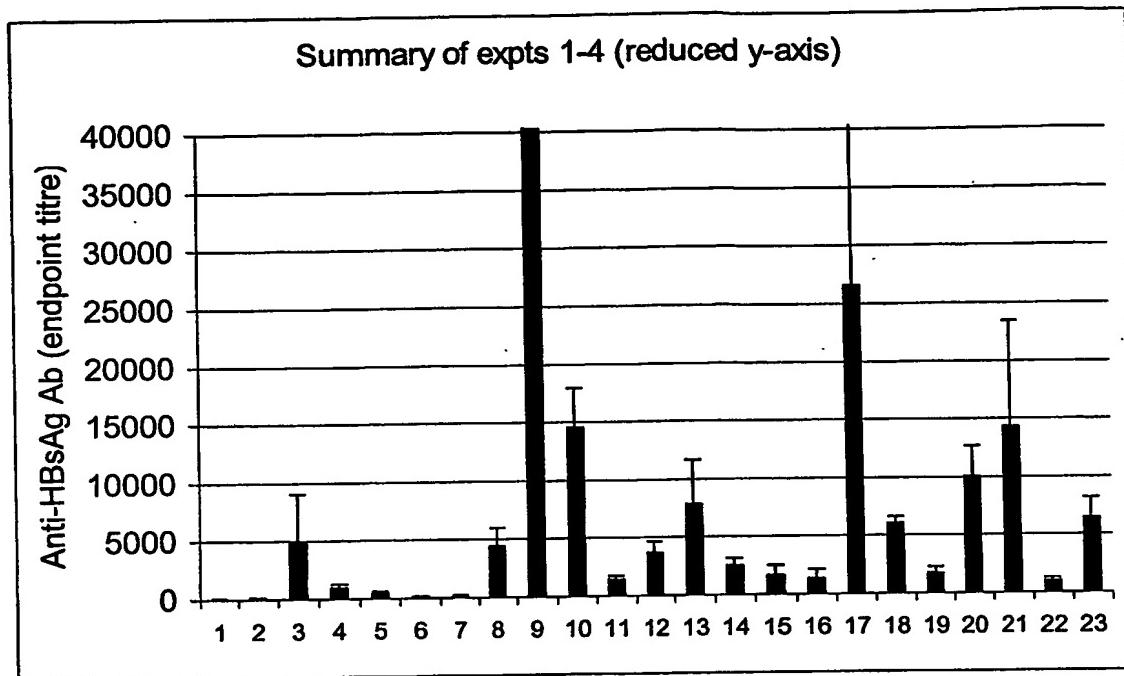
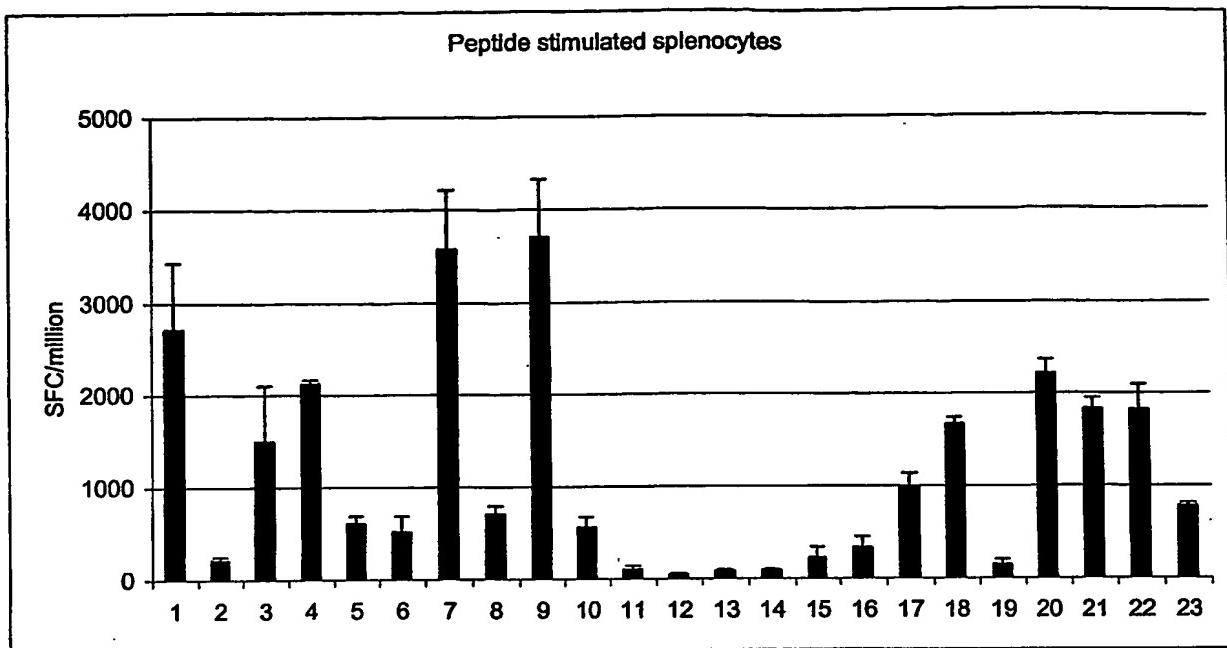
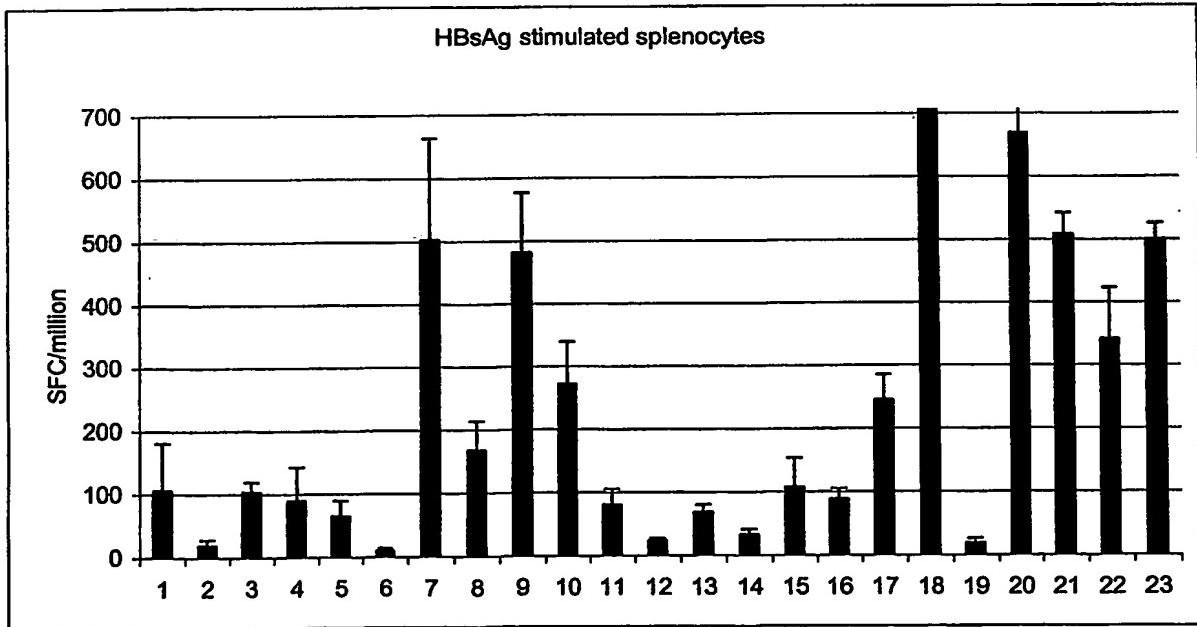
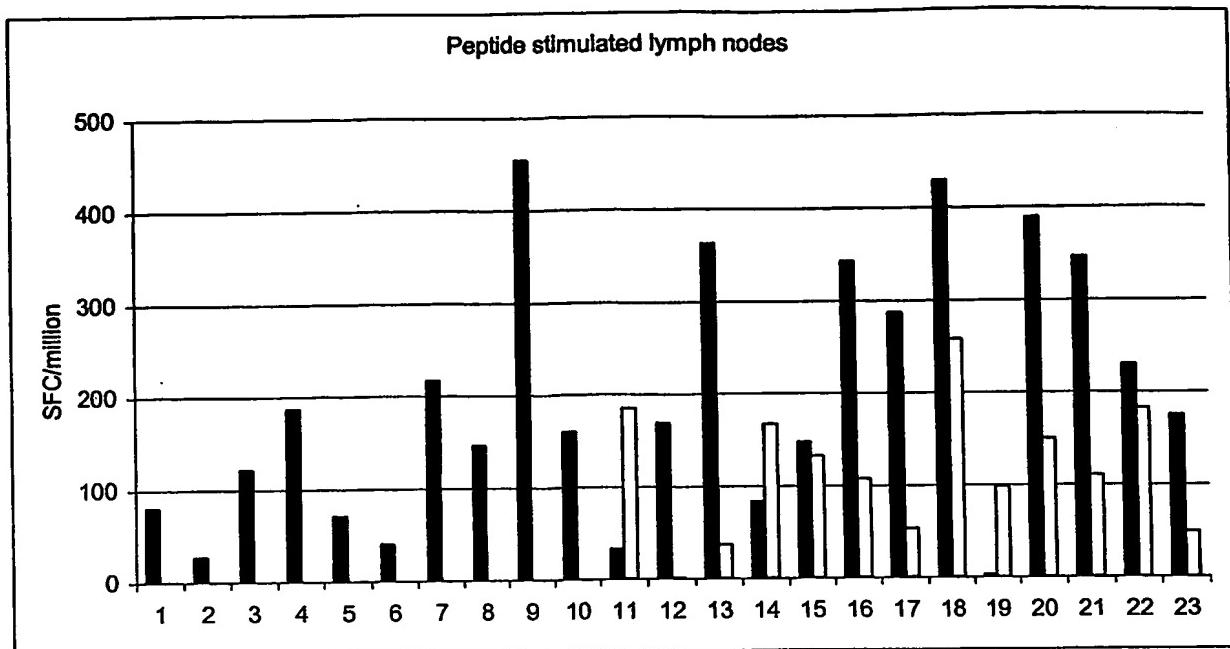
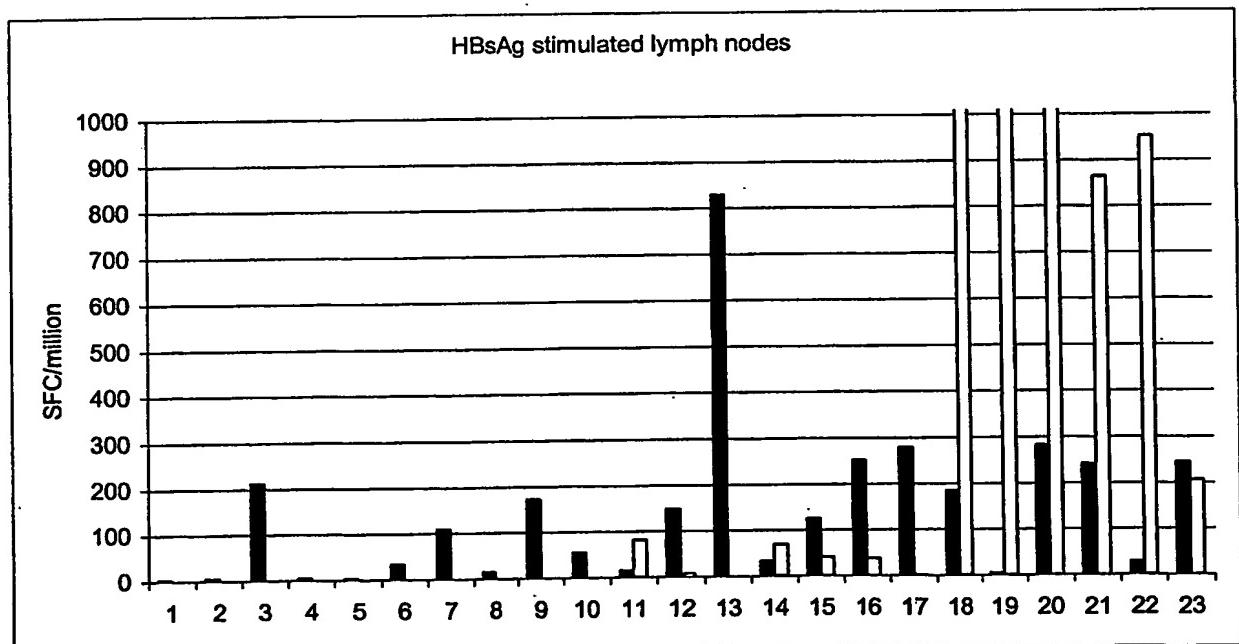
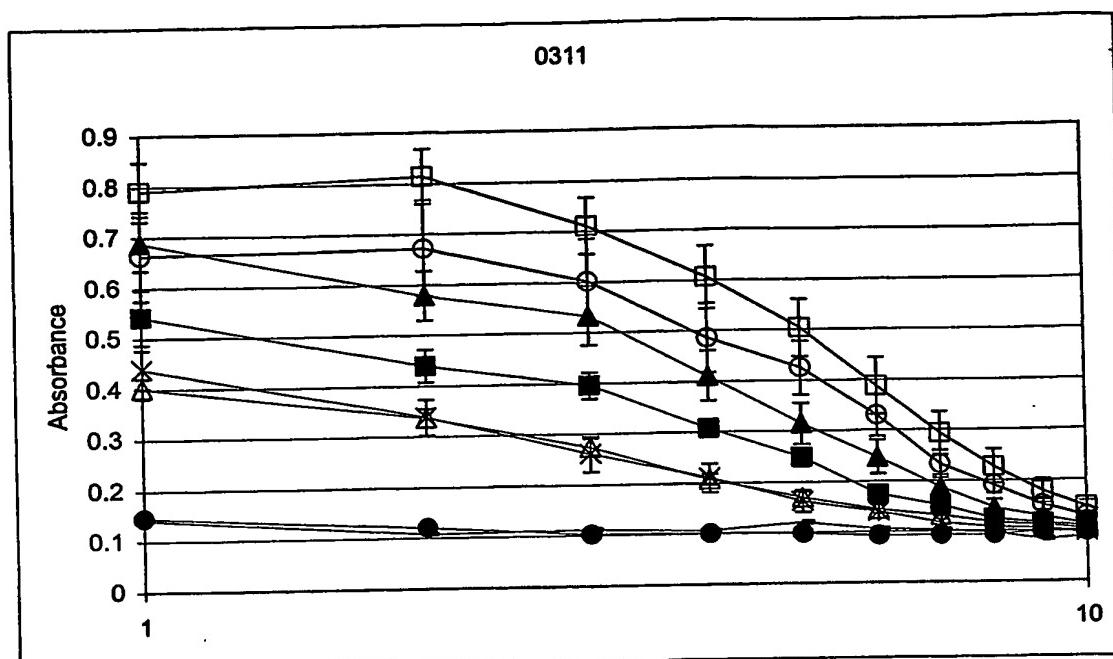


Figure 26

n=3-6 +/- SEM

**Figure 27****Figure 28**

**Figure 29****Figure 30**

**Figure 31**

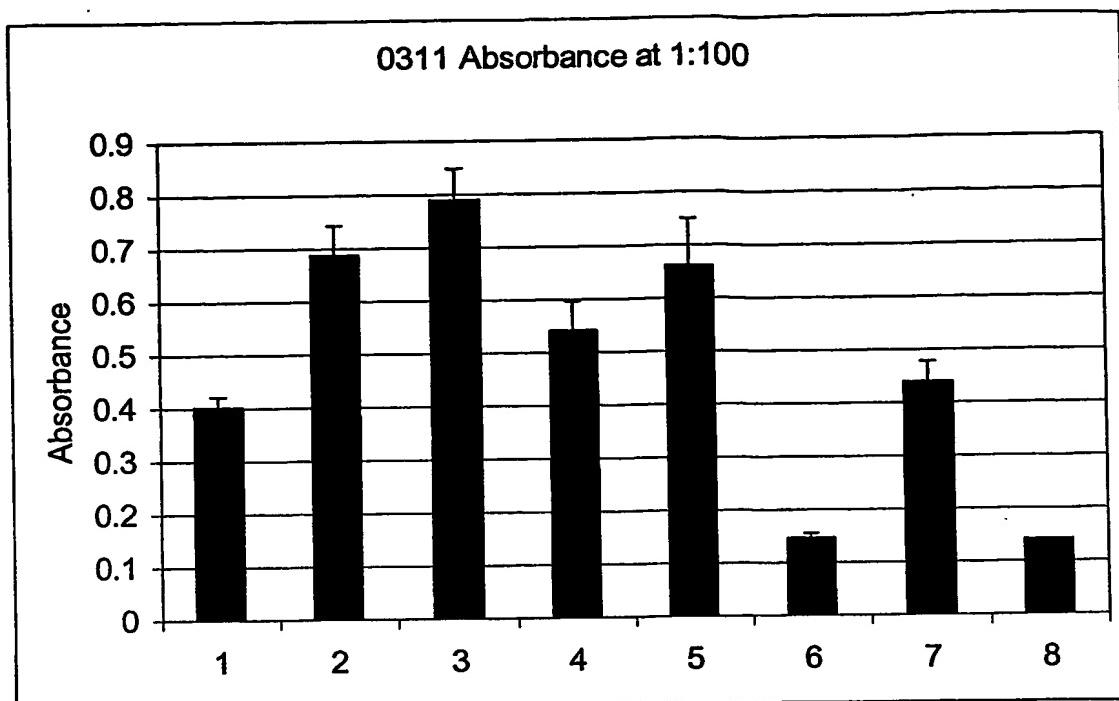
n=4 +/- SEM

PRIME

- △ DNA.HBs i.m. Engerix s.c.
- ▲ HBsAg + pSG2.HBs mix i.d.
- DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
- DNA.HBs i.m. & HBsAg i.d.
- HBsAg + MVA.HBs mix i.d
- DNA.HBs i.m.
- * Engerix-B s.c.
- Naive

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 32**

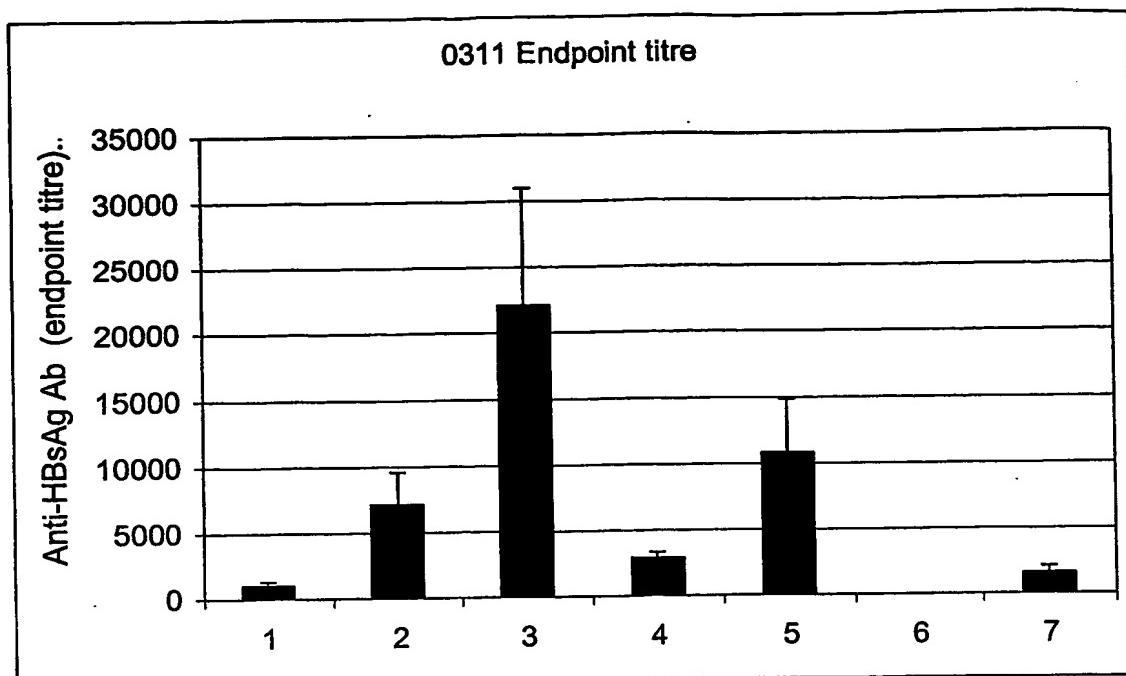
n=3-4 +/- SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.
8. Naive

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 33**

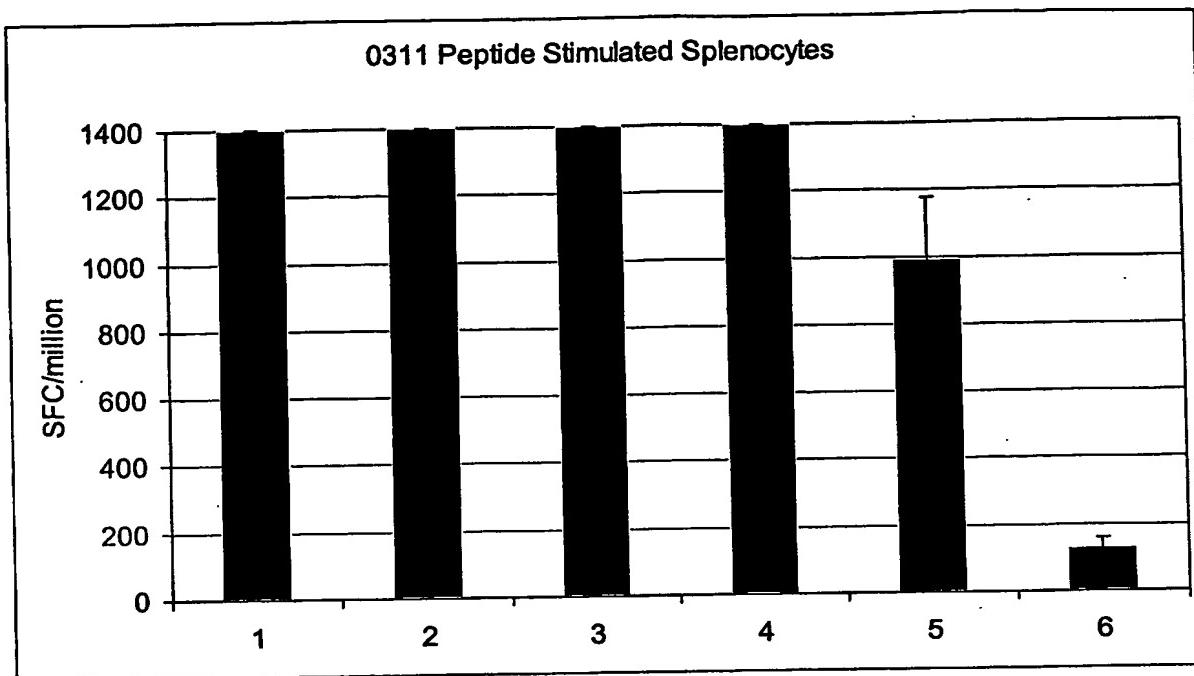
n=3-4 +/- SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.
8. Naive

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 34**

n=3-4 +/- SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d
- Engerix-B s.c.

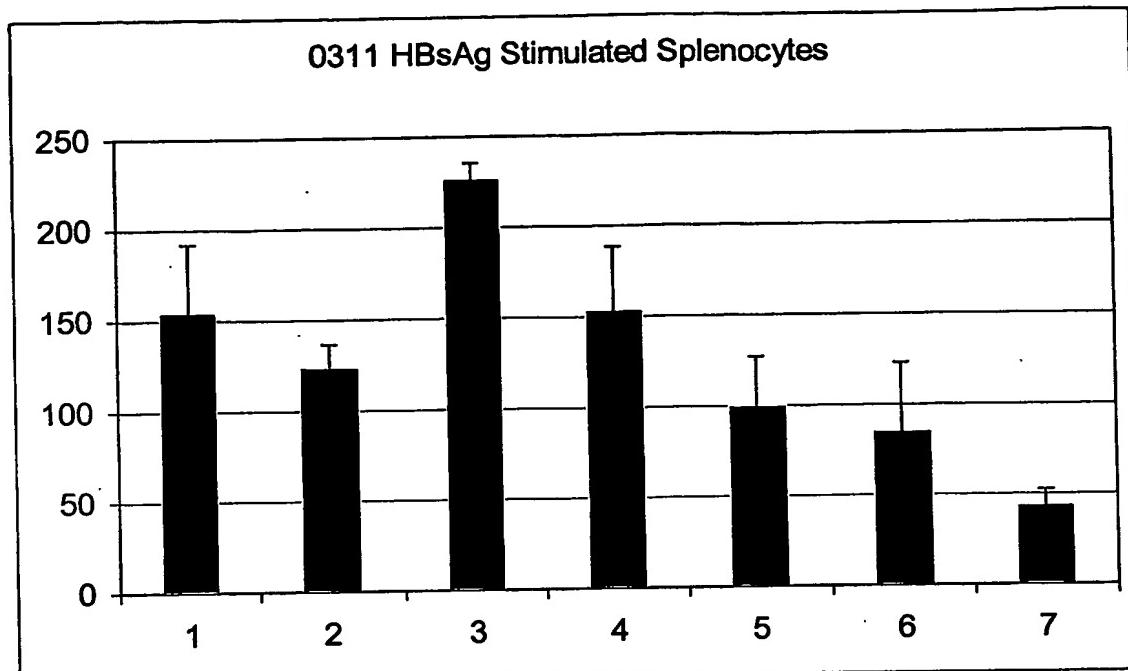


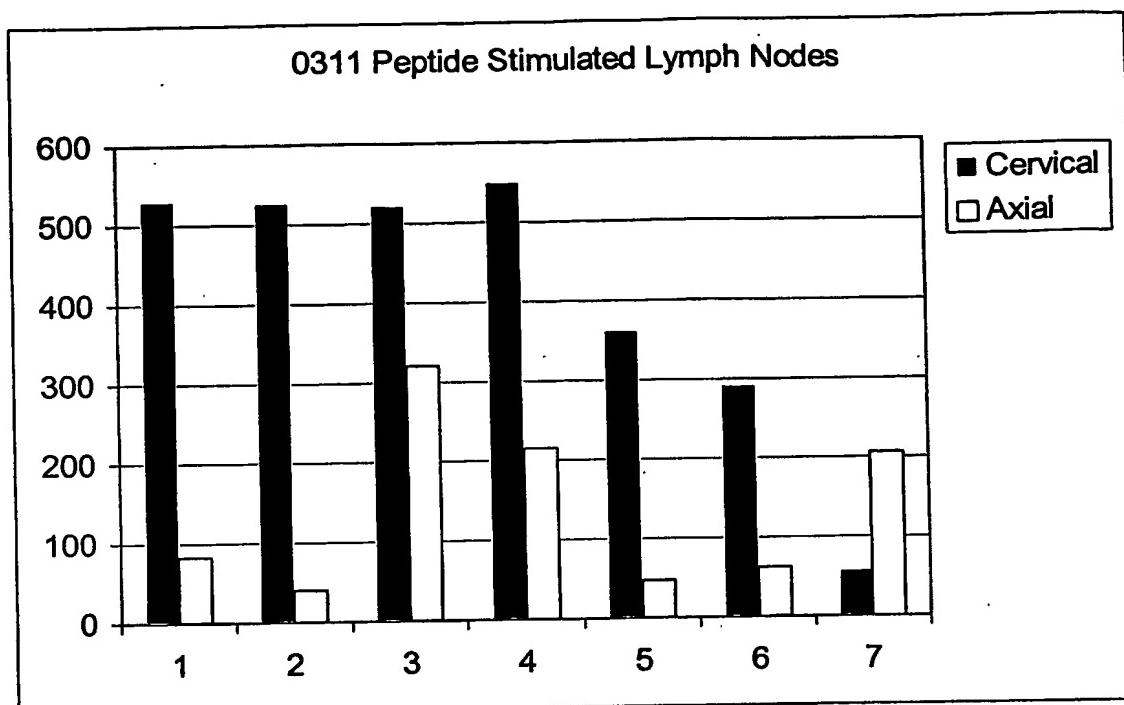
Figure 35
n=3-4 +/- SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 36**

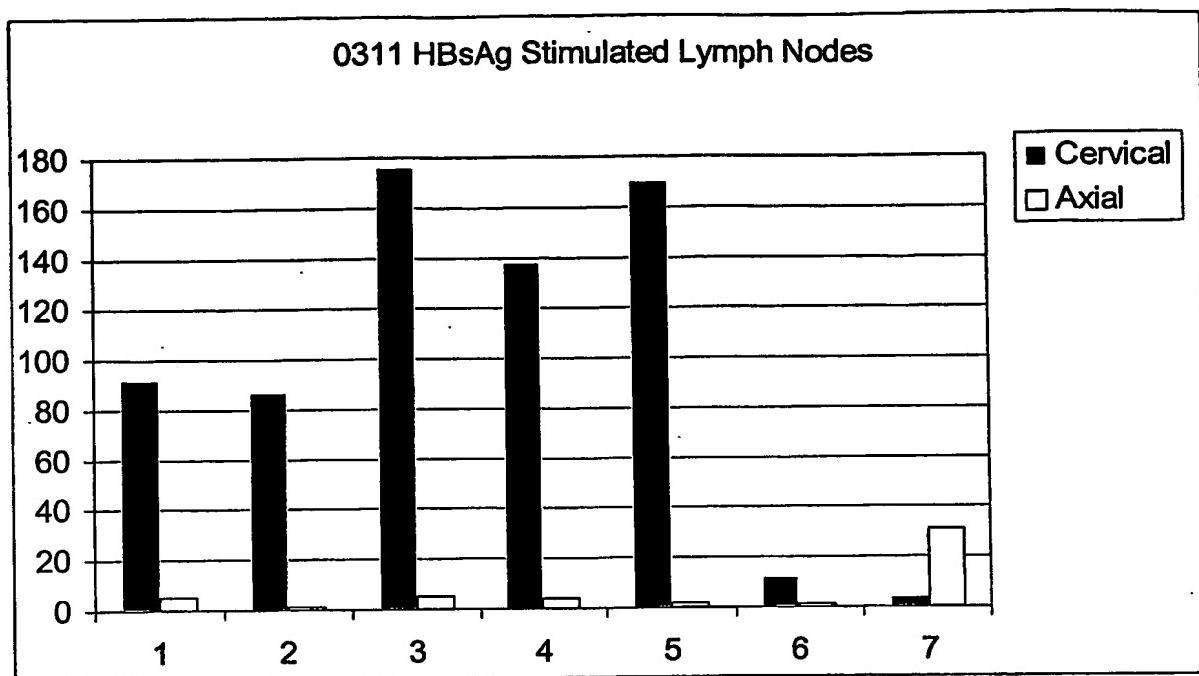
n=pooled lymph nodes from 3-4 animals

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 37**

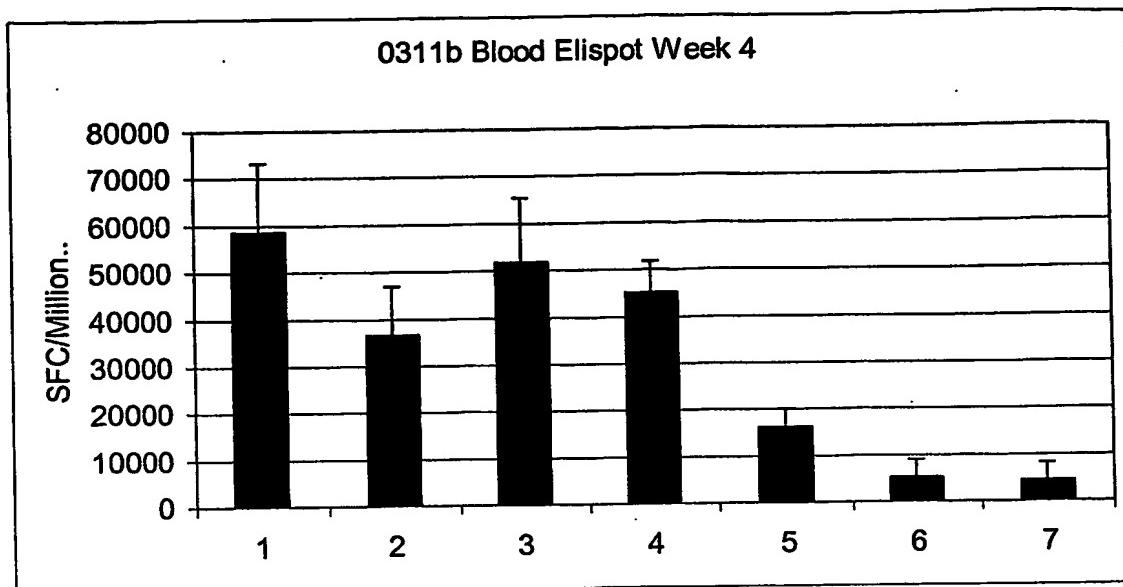
n=pooled lymph nodes from 3-4 animals

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 38**

n= 4 +/- SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

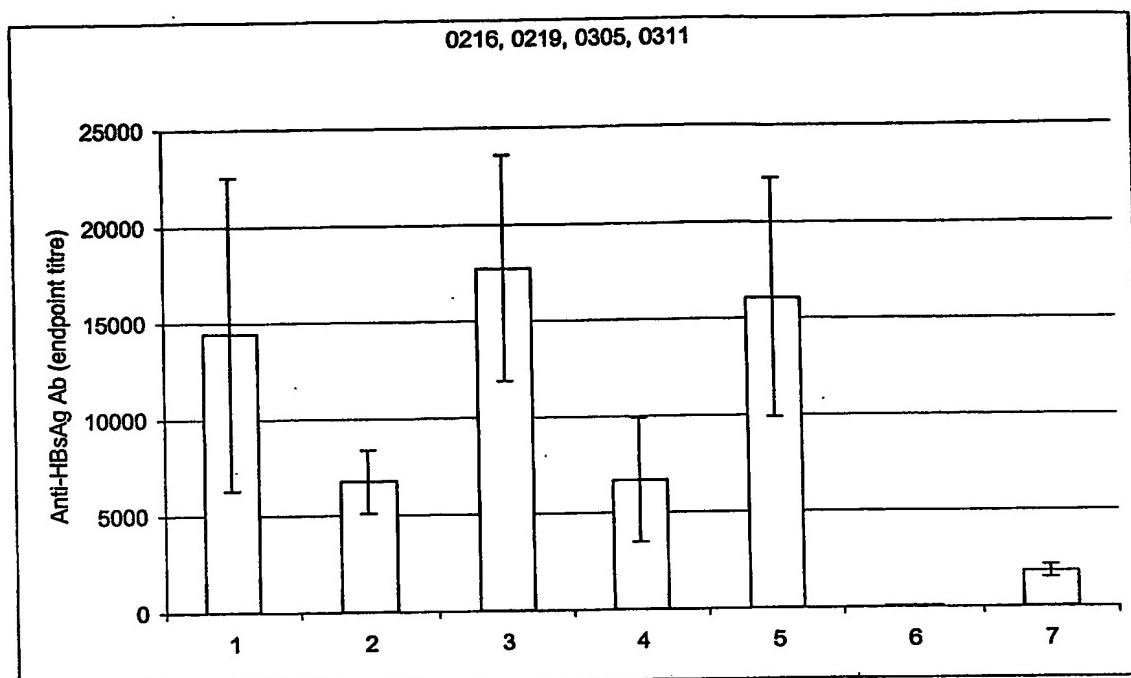


Figure 39
n=11-17 +/-SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

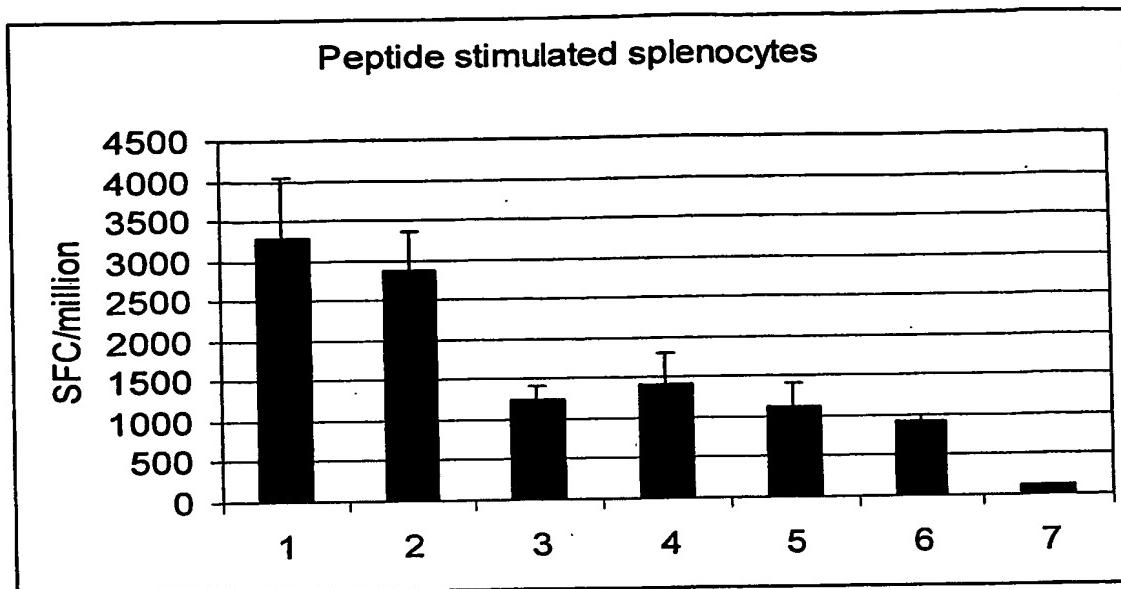


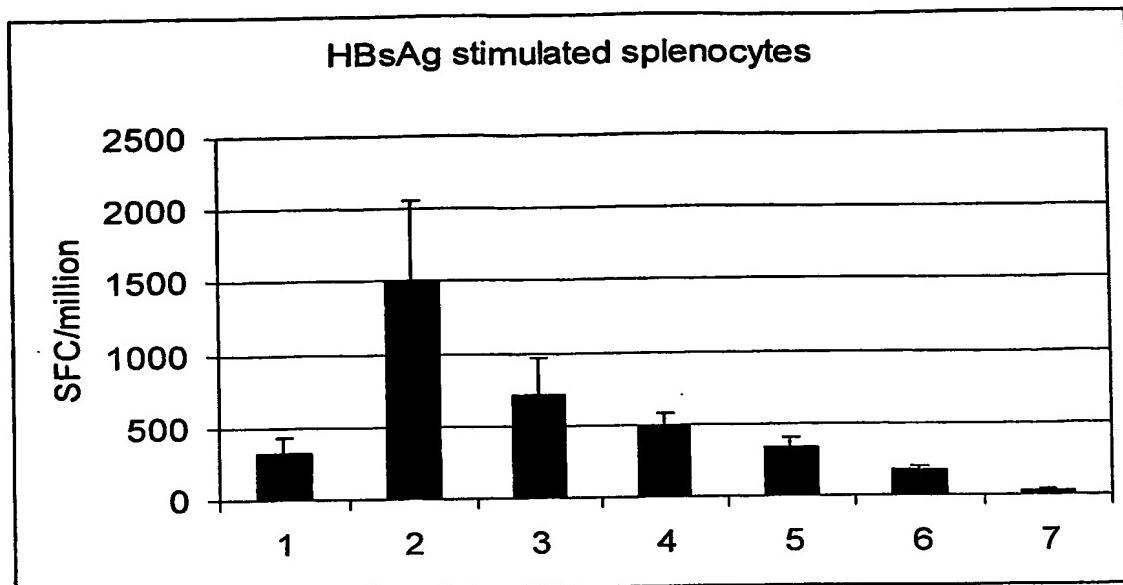
Figure 40
n=4-12 +/-SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 41**

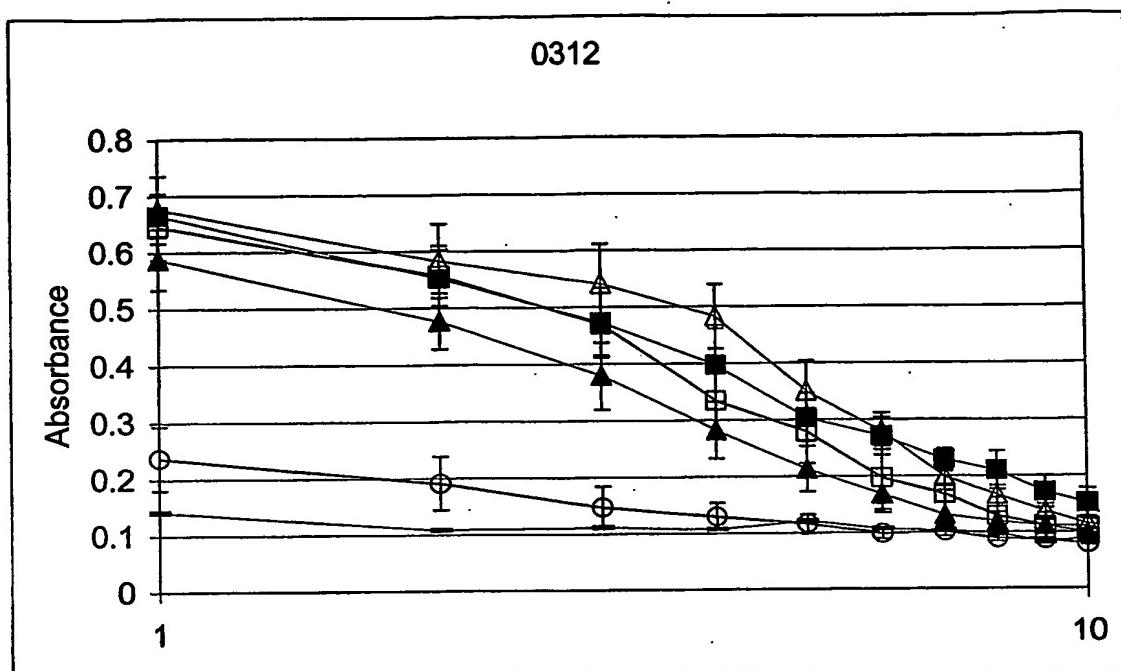
n=7-13 +/-SEM

PRIME

1. DNA.HBs i.m. Engerix s.c.
2. HBsAg + pSG2.HBs mix i.d.
3. DNA.HBs i.m. & HBsAg + FP9.LacZ 5 mix i.d.
4. DNA.HBs i.m. & HBsAg i.d.
5. HBsAg + MVA.HBs mix i.d
6. DNA.HBs i.m.
7. Engerix-B s.c.

BOOST

- MVA.HBs i.d. Engerix s.c.
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- HBsAg + MVA.HBs mix i.d.
- HBsAg + MVA.HBs mix i.d
- MVA.HBs i.d
- Engerix-B s.c.

**Figure 42**

n=4 +/- SEM

PRIME

- △ HBsAg + FP9.LacZ mix i.d.
- ▲ HBsAg + Adeno.PbCSP mix i.d.
- DNA.HBs i.m. & HBsAg + Adeno.PbCSP mix i.d.
- HBsAg + MVA.LacZ mix i.d.
- DNA.HBs i.m. & Engerix-B s.c.
- Naive

BOOST

- HBsAg + MVA.HBs mix i.d.
- MVA.HBs s.c.

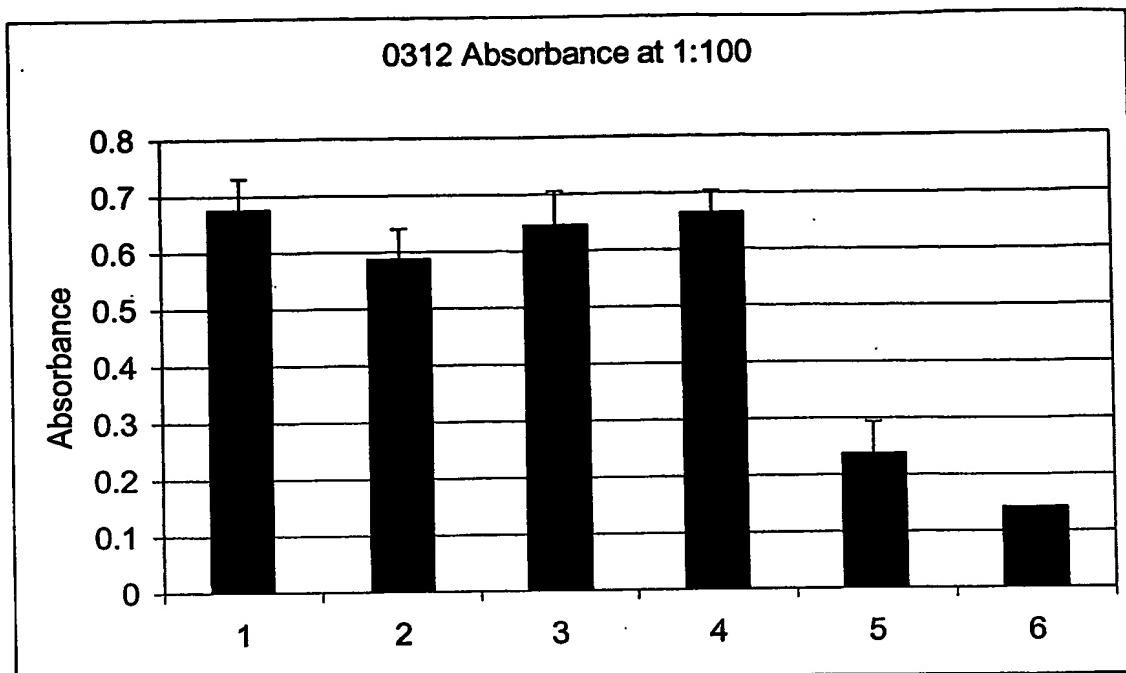


Figure 43

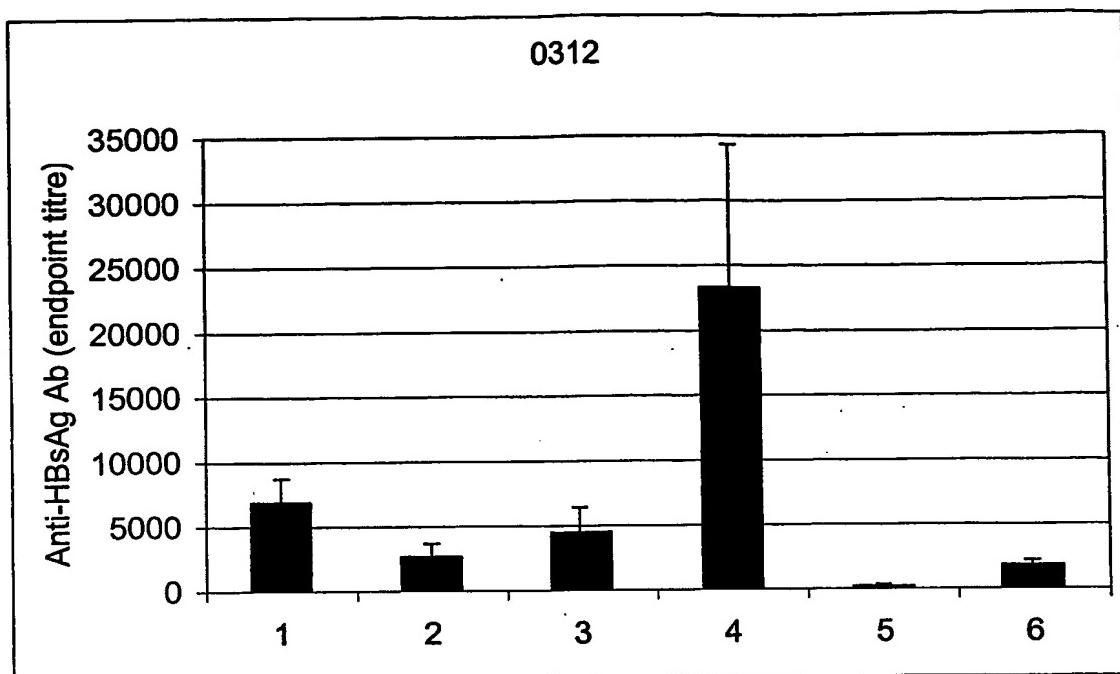
n=4 +/- SEM

PRIME

1. HBsAg + FP9.LacZ mix i.d.
2. HBsAg + Adeno.PbCSP mix i.d.
3. DNA.HBs i.m. & HBsAg + Adeno.PbCSP mix i.d.
4. HBsAg + MVA.LacZ mix i.d.
5. DNA.HBs i.m. & Engerix-B s.c.
- 6.Naive

BOOST

- HBsAg + MVA.HBs mix i.d.
- MVA.HBs s.c.

**Figure 44**

$n=4 \pm$ SEM
(except group 6 where $n=16$)

PRIME

1. HBsAg + FP9.LacZ mix i.d.
2. HBsAg + Adeno.PbCSP mix i.d.
3. DNA.HBs i.m. & HBsAg + Adeno.PbCSP mix i.d.
4. HBsAg + MVA.LacZ mix i.d.
5. DNA.HBs i.m. & Engerix-B s.c.
6. Engerix-B s.c.

BOOST

- HBsAg + MVA.HBs mix i.d.
- MVA.HBs s.c.
- Engerix-B s.c. (exp. 2-5)

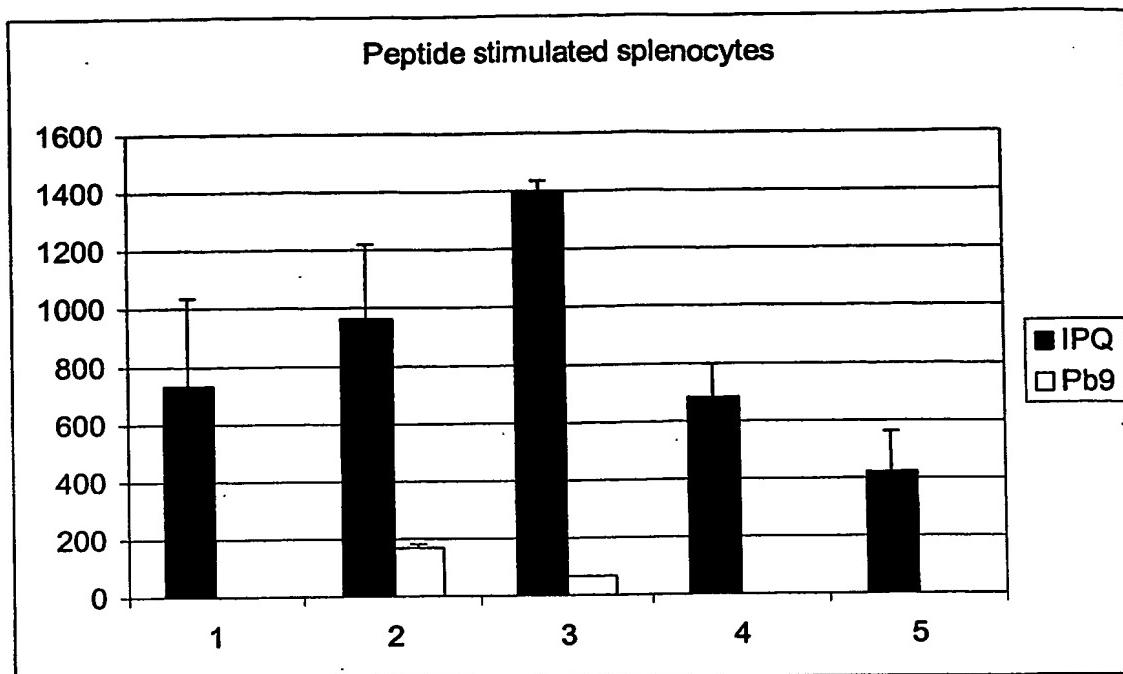


Figure 45

n=4 +/- SEM

PRIME

1. HBsAg + FP9.LacZ mix i.d.
2. HBsAg + Adeno.PbCSP mix i.d.
3. DNA.HBs i.m. & HBsAg + Adeno.PbCSP mix i.d.
4. HBsAg + MVA.LacZ mix i.d.
5. DNA.HBs i.m. & Engerix-B s.c.

BOOST

- HBsAg + MVA.HBs mix i.d.
MVA.HBs s.c.

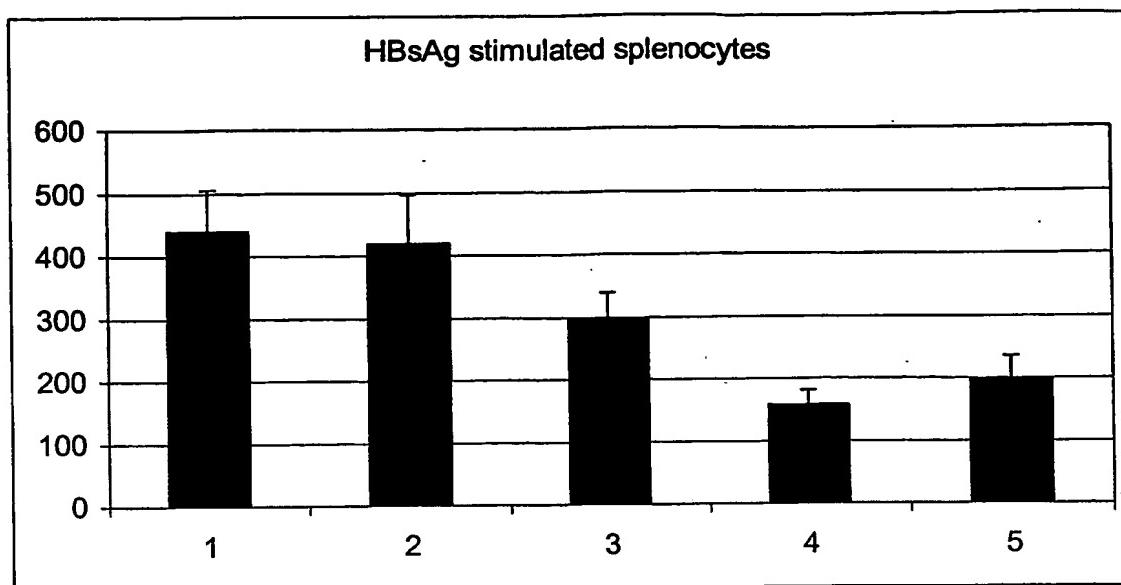


Figure 46

n=4 +/- SEM

PRIME

1. HBsAg + FP9.LacZ mix i.d.
2. HBsAg + Adeno.PbCSP mix i.d.
3. DNA.HBs i.m. & HBsAg + Adeno.PbCSP mix i.d.
4. HBsAg + MVA.LacZ mix i.d.
5. DNA.HBs i.m. & Engerix-B s.c.

BOOST

- HBsAg + MVA.HBs mix i.d.
- MVA.HBs s.c.

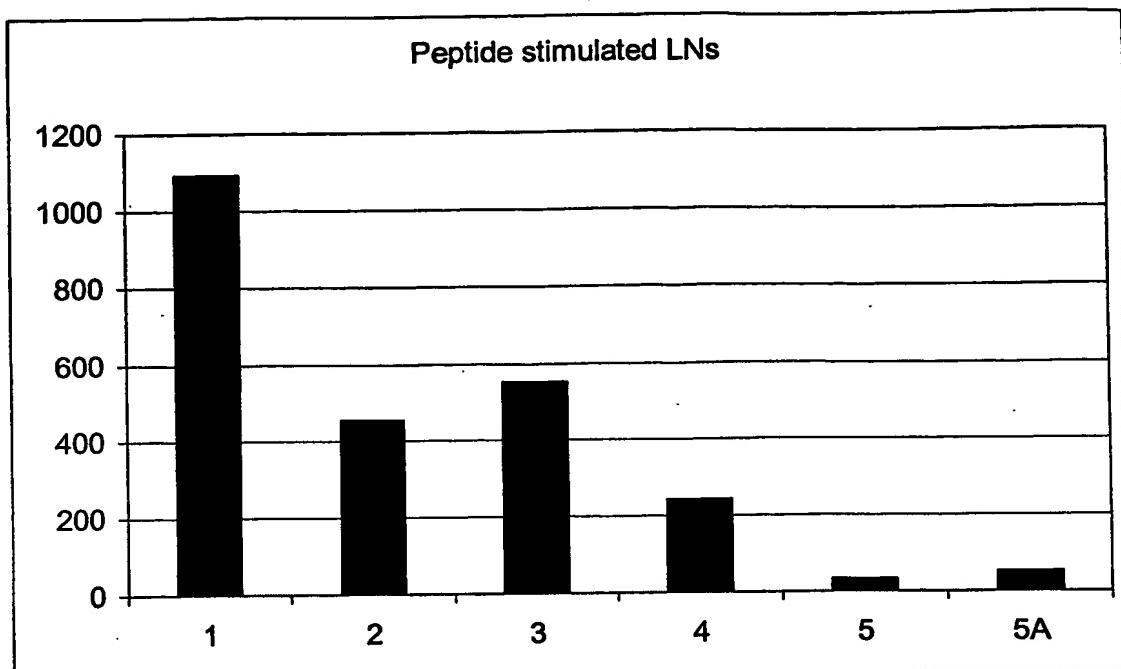


Figure 47

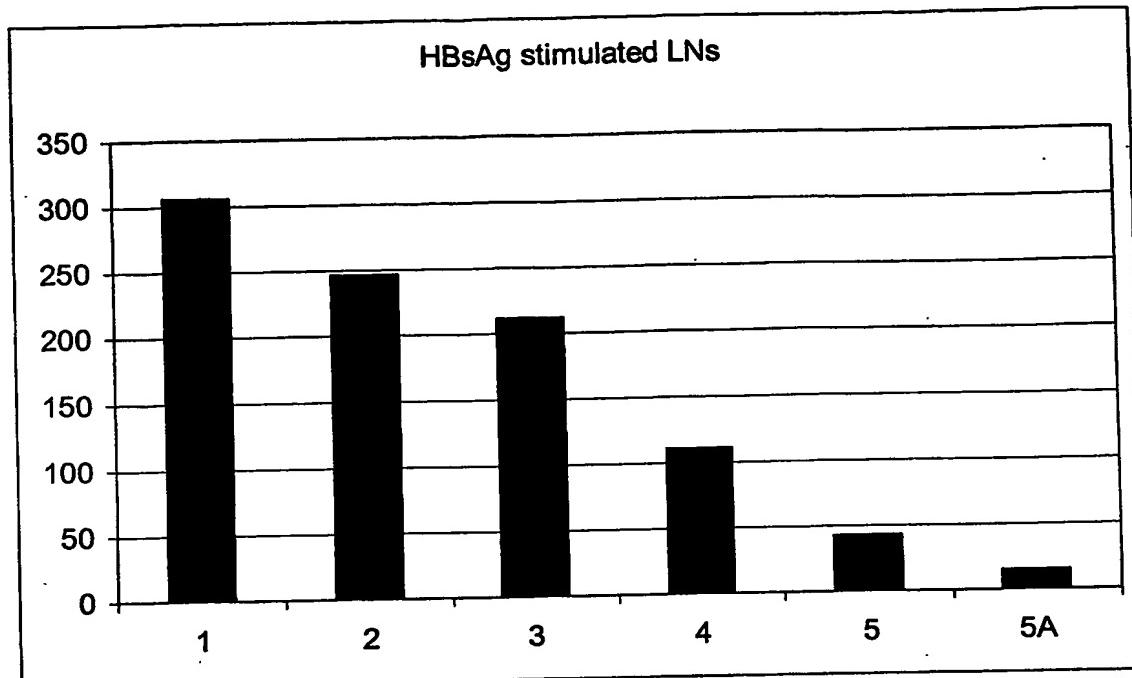
n=pooled cervical lymph nodes from 4 animals (except 5A where lymph nodes were axial)

PRIME

1. HBsAg + FP9.LacZ mix i.d.
2. HBsAg + Adeno.PbCSP mix i.d.
3. DNA.HBs i.m. & HBsAg + Adeno.PbCSP mix i.d.
4. HBsAg + MVA.LacZ mix i.d.
5. DNA.HBs i.m. & Engerix-B s.c.
- 5A. DNA.HBs i.m. & Engerix-B s.c.

BOOST

- HBsAg + MVA.HBs mix i.d.
- MVA.HBs s.c.
- MVA.HBs s.c.

**Figure 48**

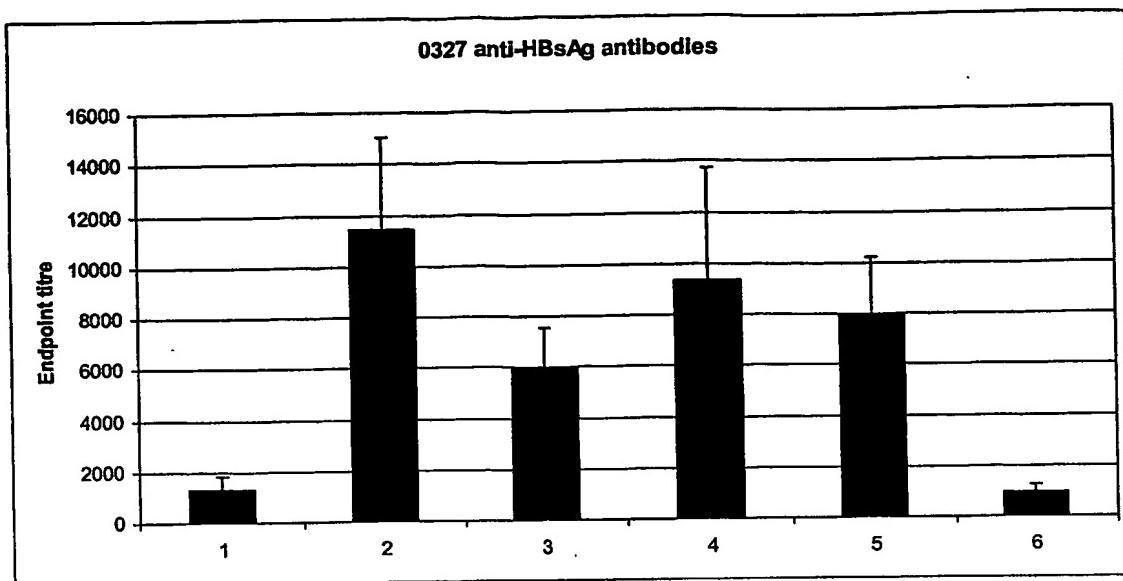
n=pooled cervical lymph nodes from 4 animals (except 5A where lymph nodes were axial)

PRIME

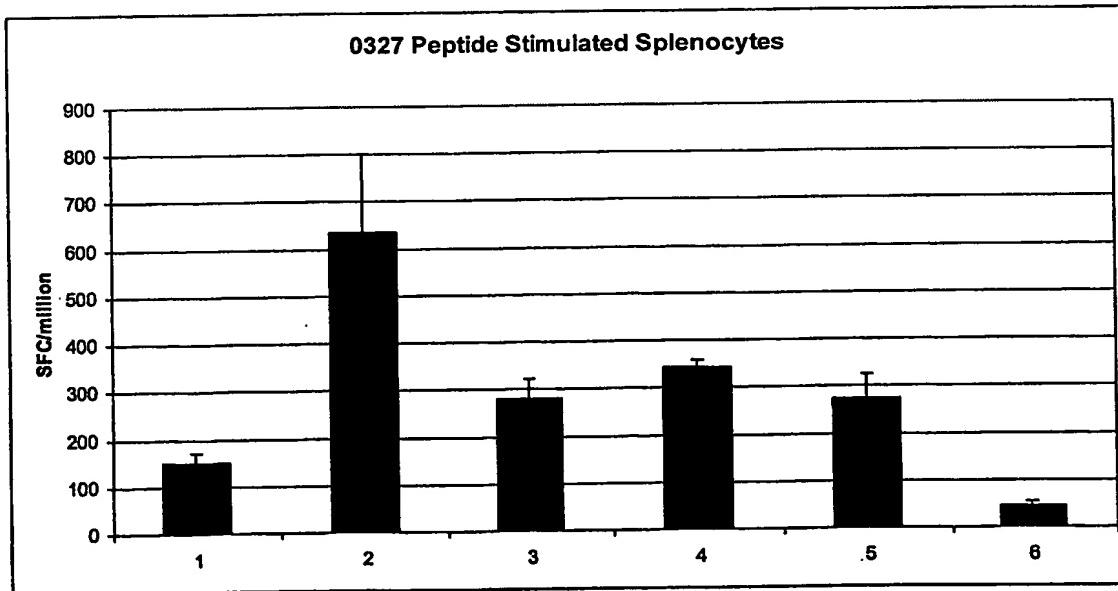
1. HBsAg + FP9.LacZ mix i.d.
2. HBsAg + Adeno.PbCSP mix i.d.
3. DNA.HBs i.m. & HBsAg + Adeno.PbCSP mix i.d.
4. HBsAg + MVA.LacZ mix i.d.
5. DNA.HBs i.m. & Engerix-B s.c.
- 5A. DNA.HBs i.m. & Engerix-B s.c.

BOOST

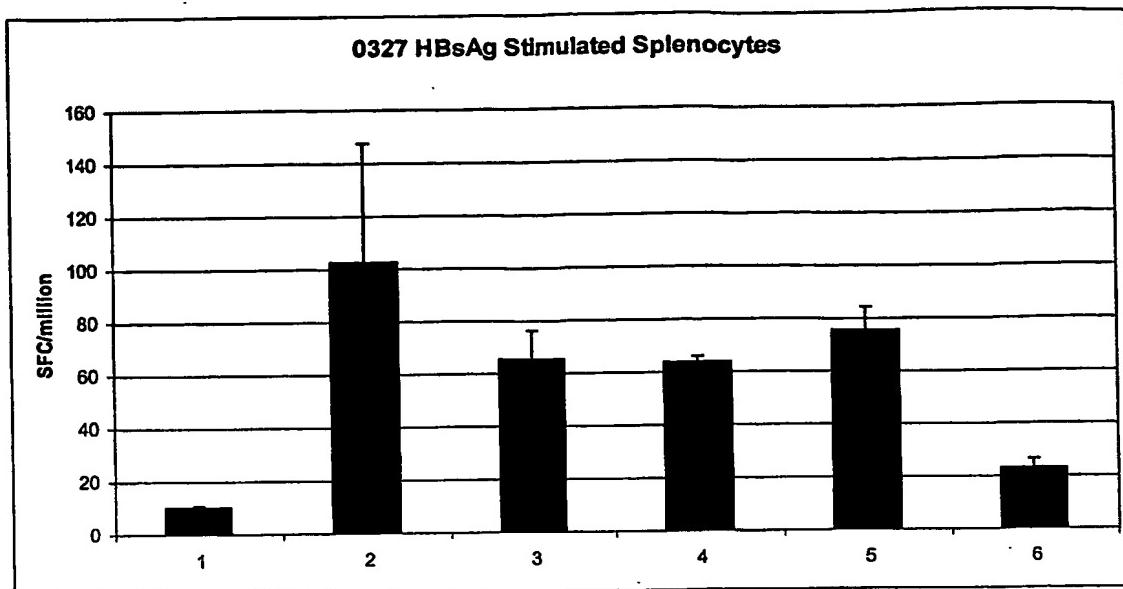
- HBsAg + MVA.HBs mix i.d.
- MVA.HBs s.c.
- MVA.HBs s.c.

**Figure 49**

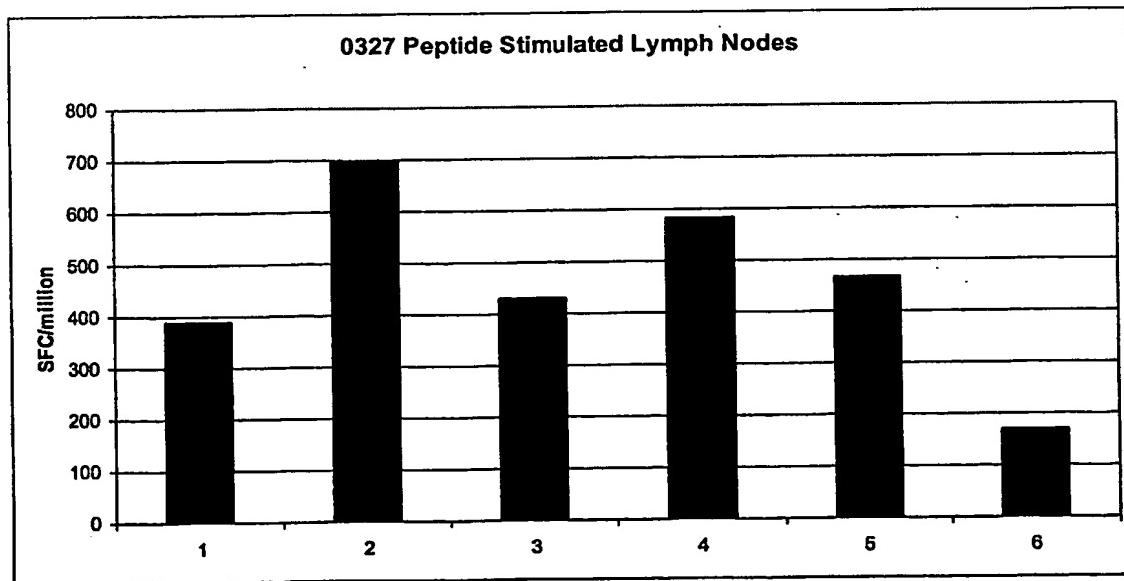
- | | |
|-----------------------------|---------------------------|
| 1. [Adeno.LacZ + Ag] id x 2 | 2. [ALVAC+ Ag] id x 2 |
| 3. [FP.LacZ + Ag] id x 2 | 4. [MVA.LacZ + Ag] id x 2 |
| 5. [NYVAC.LacZ + Ag] id x 2 | 6. 2 x Ag id |

**Figure 50**

- | | |
|-----------------------------|---------------------------|
| 1. [Adeno.LacZ + Ag] id x 2 | 2. [ALVAC+ Ag] id x 2 |
| 3. [FP.LacZ + Ag] id x 2 | 4. [MVA.LacZ + Ag] id x 2 |
| 5. [NYVAC.LacZ + Ag] id x 2 | 6. 2 x Ag id |

**Figure 51**

- 1. [Adeno.LacZ + Ag] id x 2
- 2. [ALVAC+ Ag] id x 2
- 3. [FP.LacZ + Ag] id x 2
- 4. [MVA.LacZ + Ag] id x 2
- 5. [NYVAC + Ag] id x 2
- 6. 2 x Ag id

**Figure 52**

- 1. [Adeno.LacZ + Ag] id x 2
- 2. [ALVAC+ Ag] id x 2
- 3. [FP.LacZ + Ag] id x 2
- 4. [MVA.LacZ + Ag] id x 2
- 5. [NYVAC + Ag] id x 2
- 6. 2 x Ag id

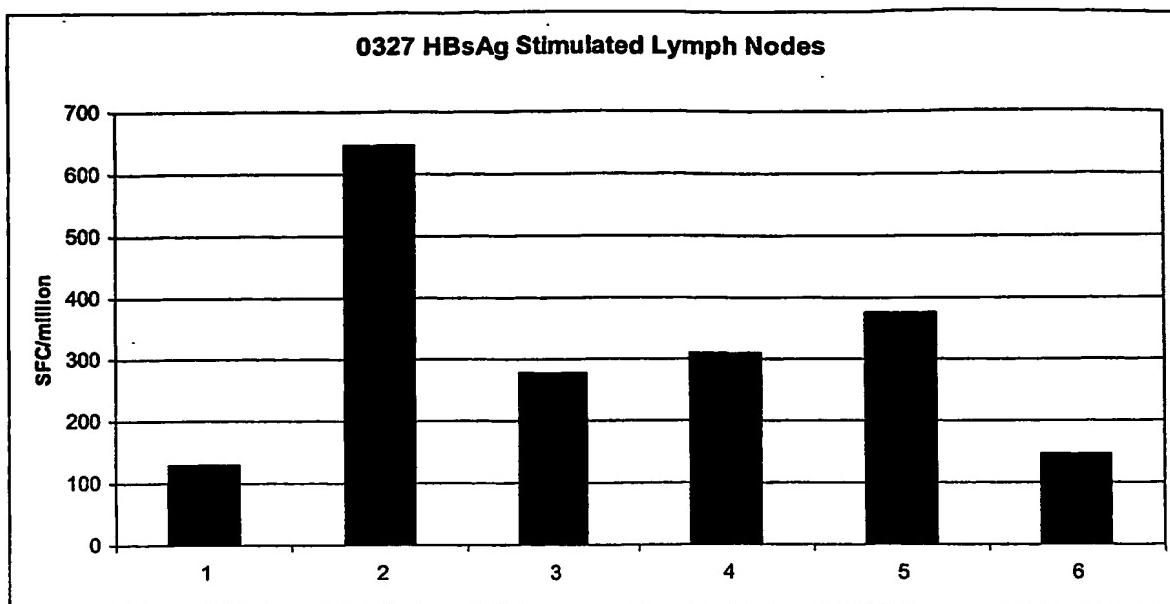


Figure 53

- 1. [Adeno.LacZ + Ag] id x 2 2. [ALVAC+ Ag] id x 2
- 3. [FP.LacZ + Ag] id x 2 4. [MVA.LacZ + Ag] id x 2
- 5. [NYVAC + Ag] id x 2 6. 2 x Ag id

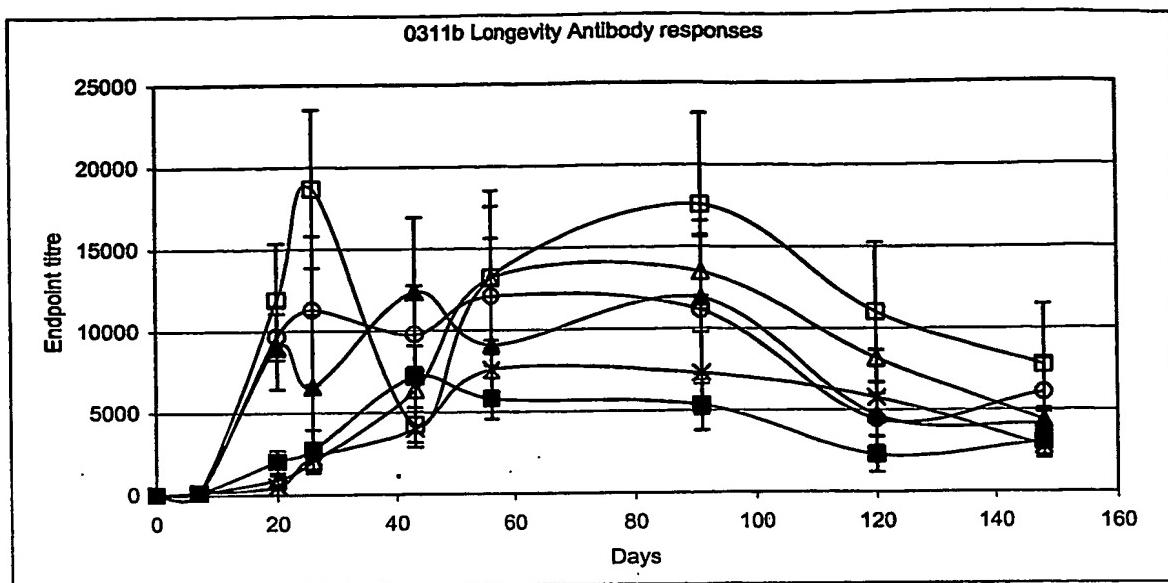


Figure 54

- △ DNAimEngsc/MVA.HbsidEngsc
- DNA-im[FP+Ag]id/[MVA.HBs+Ag]id
- [MVA.HBs+Ag]id/[MVA.HBs+Ag]id
- ▲ [DNA+Ag]id/[MVA.HBs+Ag]id
- DNAimAgid/[MVA.HBs+Ag]id
- * Engsc/Engsc

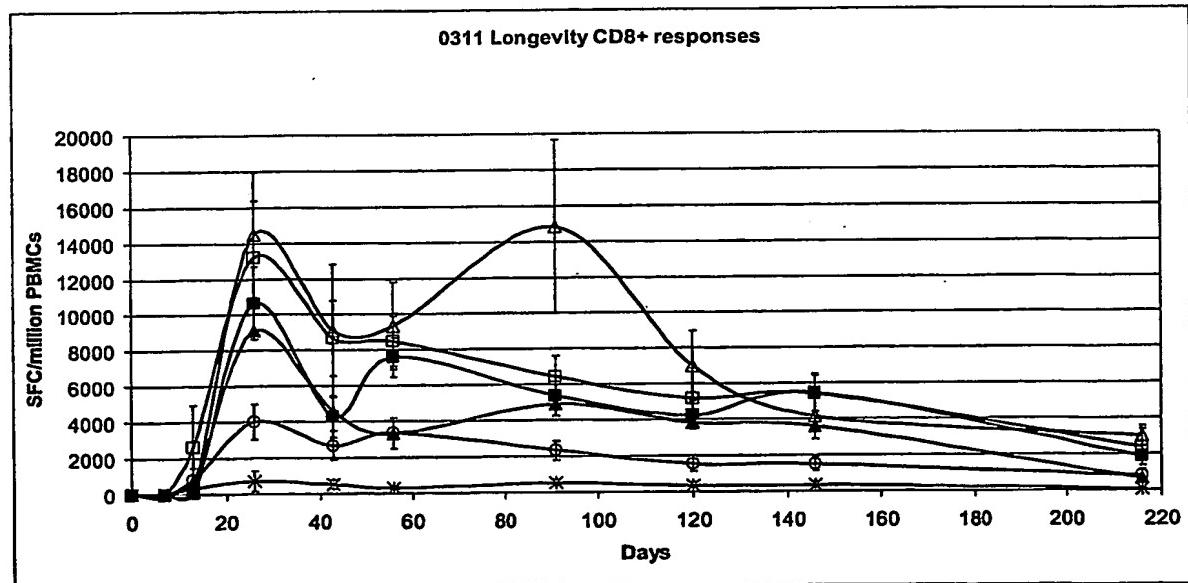


Figure 55

- △ DNAimEngsc/MVA.HbsidEngsc
- DNA-im[FP+Ag]id/[MVA.HBs+Ag]id
- [MVA.HBs+Ag]id/[MVA.HBs+Ag]id
- ▲ [DNA+Ag]id/[MVA.HBs+Ag]id
- DNAimAgid/[MVA.HBs+Ag]id
- * Engsc/Engsc

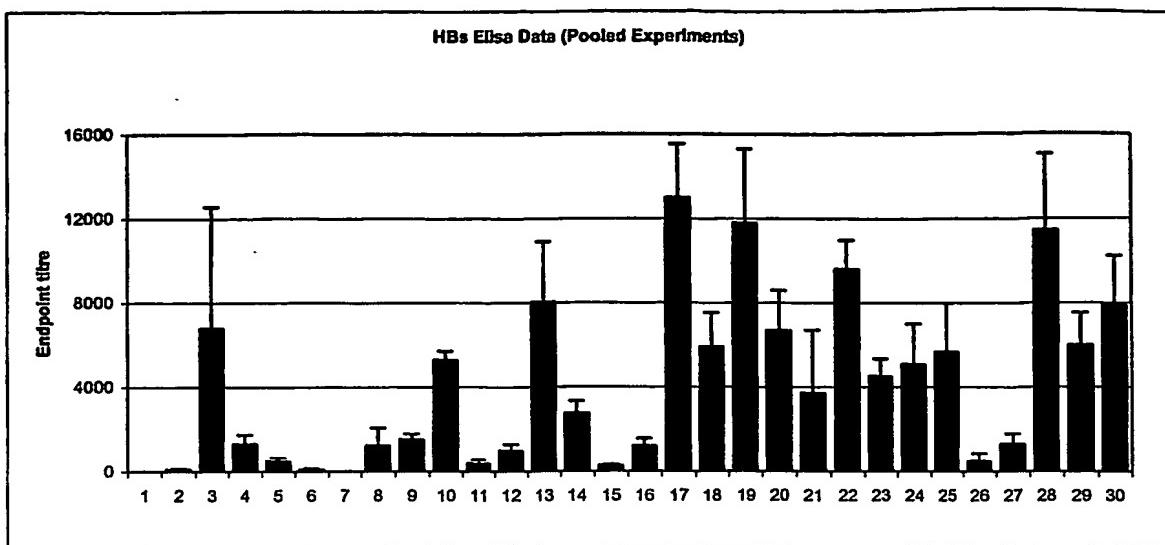
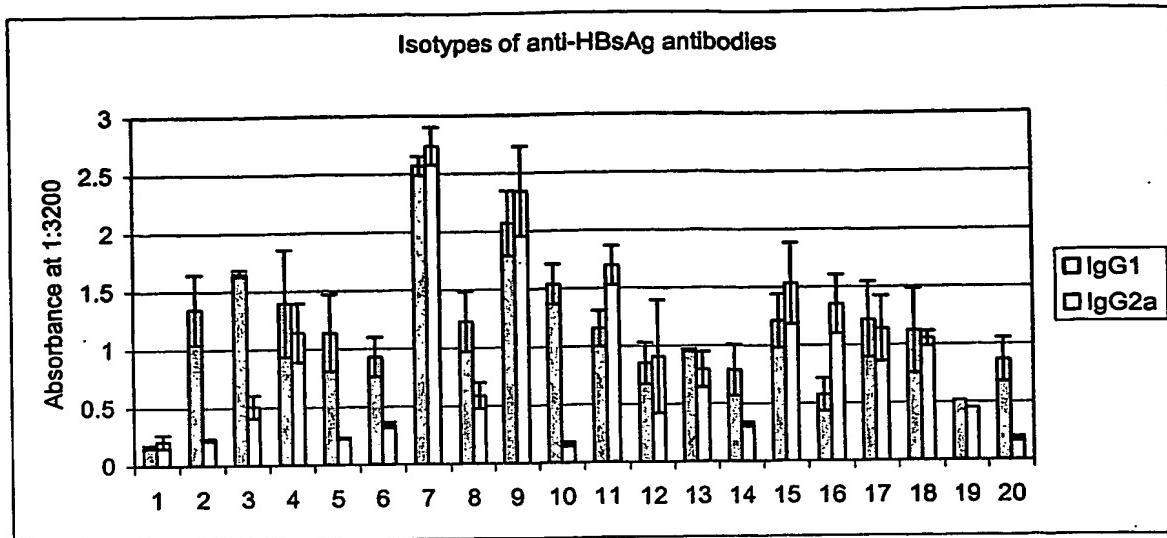


Figure 56

- | | |
|--|--|
| 1. DNA/MVA <i>iv</i> | 2. NIL/Eng <i>sc</i> |
| 3. DNA/[MVA+Eng] <i>sc</i> | 4. DNA/Mva <i>iv</i> /Eng <i>sc</i> |
| 5. DNA/Eng <i>sc</i> | 6. DNA/(MVA+Al) <i>sc</i> |
| 7. DNA/MVA <i>id</i> | 8. DNA/ <i>im</i> Engsc / [MVA+Eng] <i>sc</i> |
| 9. DNA/ <i>im</i> Engsc / MVA/ <i>id</i> Engsc <i>n=15</i> | 10. DNA/ <i>im</i> Engsc/ [MVA.Lac+Eng] <i>sc</i> |
| 11. 2 x Ag <i>sc</i> | 12. 2 x Ag <i>id</i> |
| 13. 2 x [MVA.Lac+Ag] <i>id</i> | 14. 2 x Eng <i>sc</i> <i>n=12</i> |
| 15. 2 x MVA.Lac <i>id</i> +Eng <i>sc</i> | 16. 2 x [MVA.LacZ+Eng-B] <i>s.c.</i> |
| 17. 2 x [MVA+Ag] <i>id</i> <i>n=8</i> | 18. [DNA+Ag] <i>id</i> / [MVA+Ag] <i>id</i> |
| 19. DNA/ <i>im</i> [FP9.Lac+Ag] <i>id</i> / [MVA+Ag] <i>id</i> | 20. DNA/ <i>im</i> Ag <i>id</i> / [MVA+Ag] <i>id</i> |
| 21. [MVA.Lac+Ag] <i>id</i> / [FP.Lac+Ag] <i>id</i> | 22. [FP9.Lac+Ag] <i>id</i> / [MVA+Ag] <i>id</i> |
| 23. [AD.CSP+Ag] <i>id</i> / [MVA+Ag] <i>id</i> | 24. DNA <i>im</i> [AD.CSP+Ag] <i>id</i> / [MVA+Ag] <i>id</i> |
| 25. [MVA.Lac+Ag] <i>id</i> / [MVA+Ag] <i>id</i> | 26. DNA/ <i>im</i> Engsc / MVA <i>sc</i> |
| 27. [Adeno.LacZ + Ag] <i>id</i> x 2 | 28. [ALVAC+ Ag] <i>id</i> x 2 |
| 29. [FP.LacZ + Ag] <i>id</i> x 2 | 30. [NYVAC + Ag] <i>id</i> x 2 |

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**Figure 57**

- | | |
|--|--|
| 1. DNA/MVA <i>id</i> | 2. 2.DNA <i>im Engsc / MVAid Engsc</i> |
| 3. [DNA+Ag] <i>id / [MVA+Ag]id</i> | 4. DNA <i>im Agid / [MVA+Ag]id</i> |
| 5. DNA <i>im Engsc / MVAid Engsc</i> | 6. [DNA+Ag] <i>id / [MVA+Ag]id</i> |
| 7. DNA <i>im [FP9.Lac+Ag]id / [MVA+Ag]id</i> | 8. DNA <i>im Ag id / [MVA+Ag]id</i> |
| 9. 2 x [MVA+Ag] <i>id</i> | 10. 2 x Eng <i>sc</i> |
| 11. [FP9.Lac+Ag] <i>id / [MVA+Ag]id</i> | 12. [AD.CSP+Ag] <i>id / [MVA+Ag]id</i> |
| 13. DNA <i>im [AD.CSP+Ag]id / [MVA+Ag]id</i> | 14. [Adeno.LacZ + Ag] <i>id x 2</i> |
| 15. [ALVAC+ Ag] <i>id x 2</i> | 16. [FP.LacZ + Ag] <i>id x 2</i> |
| 17. [MVA.LacZ + Ag] <i>id x 2</i> | 18. [NYVAC.LacZ + Ag] <i>id x 2</i> |
| 19. 2 x Ag <i>sc</i> | 20. 2 x Ag <i>id</i> |

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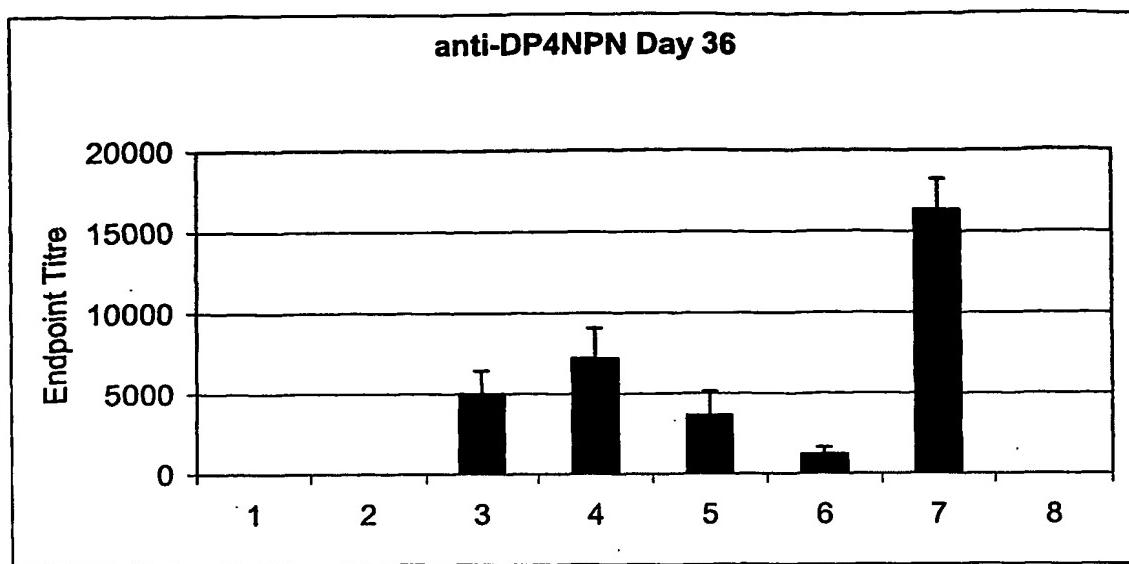
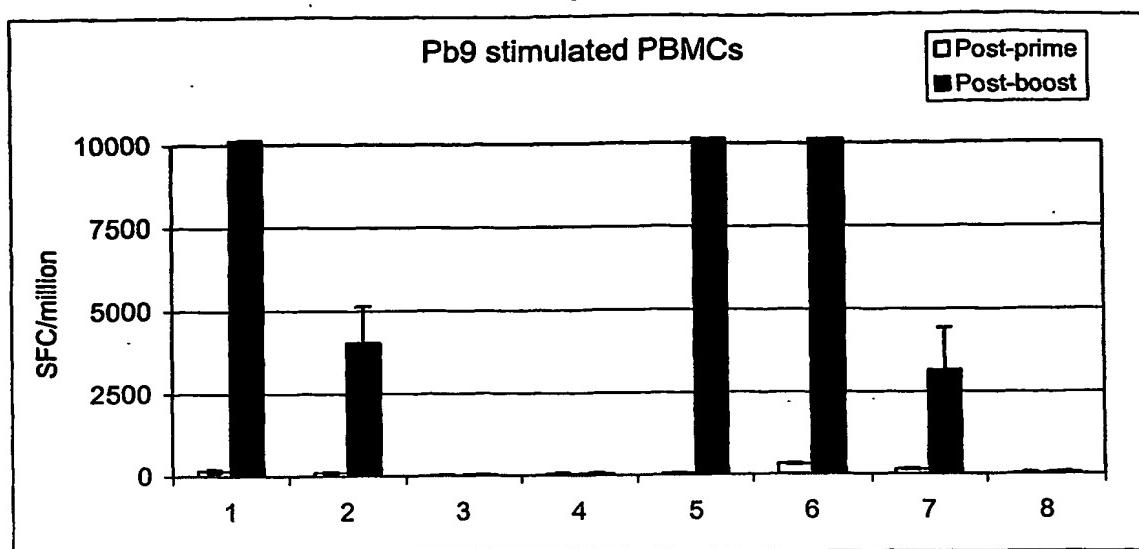


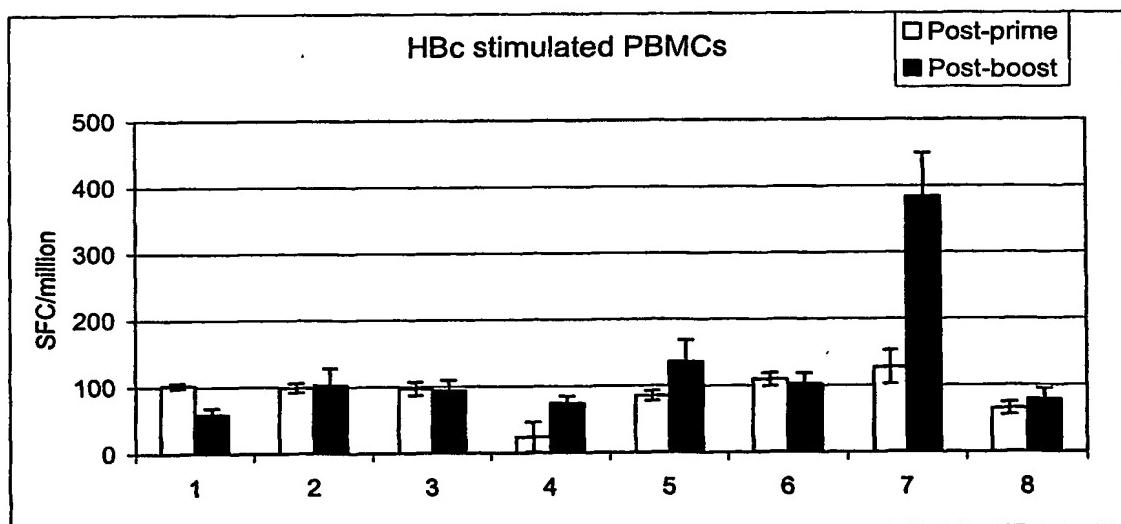
Figure 58

- | | |
|-------------------------------------|---------------------------------------|
| 1. FP/MVA i.d. | 2. DNA i.m./MVA i.d. |
| 3. AP i.p. x 2 (10ug) | 4. AP i.d. x 2 (5ug) |
| 5. DNA i.m. + AP i.p. / MVA+AP i.p. | 6. FP i.d. + AP i.p./MVA i.d. Ap i.p. |
| 7. FP+AP i.d./MVA+AP i.d. | 8. PBS x 2 |

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**Figure 59**

- | | |
|------------------------------------|---------------------------------------|
| 1. FP/MVA i.d. | 2. DNA i.m./MVA i.d. |
| 3. AP i.p. x 2 (10ug) | 4. AP i.d. x 2 (5ug) |
| 5. DNA i.m. + AP i.p./ MVA+AP i.p. | 6. FP i.d. + AP i.p./MVA i.d. Ap i.p. |
| 7. FP+AP i.d./MVA+AP i.d. | 8. PBS x 2 |

**Figure 60**

- | | |
|------------------------------------|---------------------------------------|
| 1. FP/MVA i.d. | 2. DNA i.m./MVA i.d. |
| 3. AP i.p. x 2 (10ug) | 4. AP i.d. x 2 (5ug) |
| 5. DNA i.m. + AP i.p./ MVA+AP i.p. | 6. FP i.d. + AP i.p./MVA i.d. Ap i.p. |
| 7. FP+AP i.d./MVA+AP i.d. | 8. PBS x 2 |

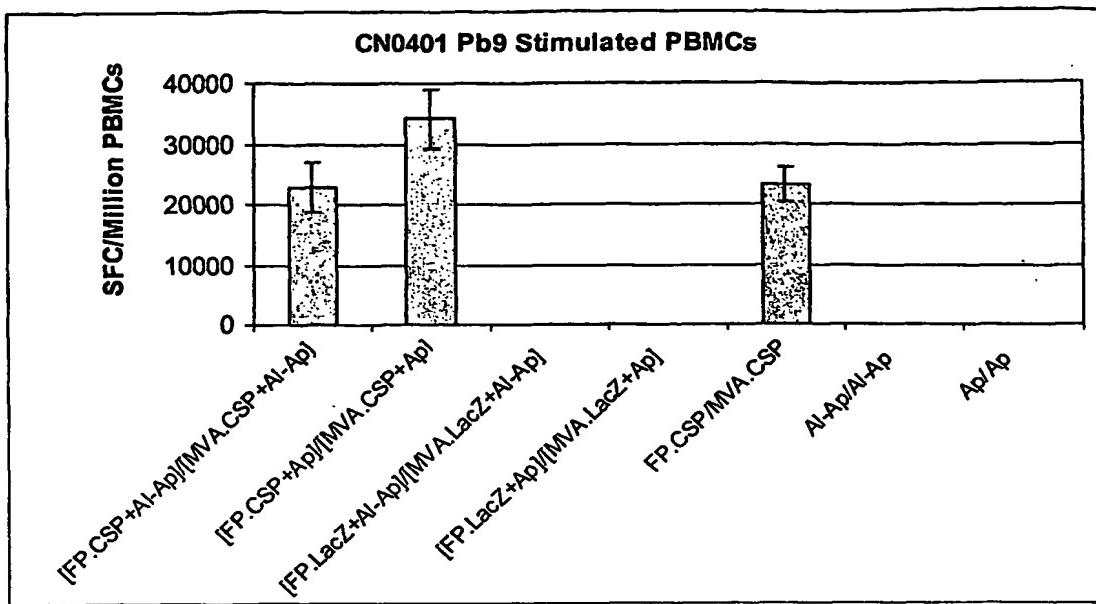


Figure 61

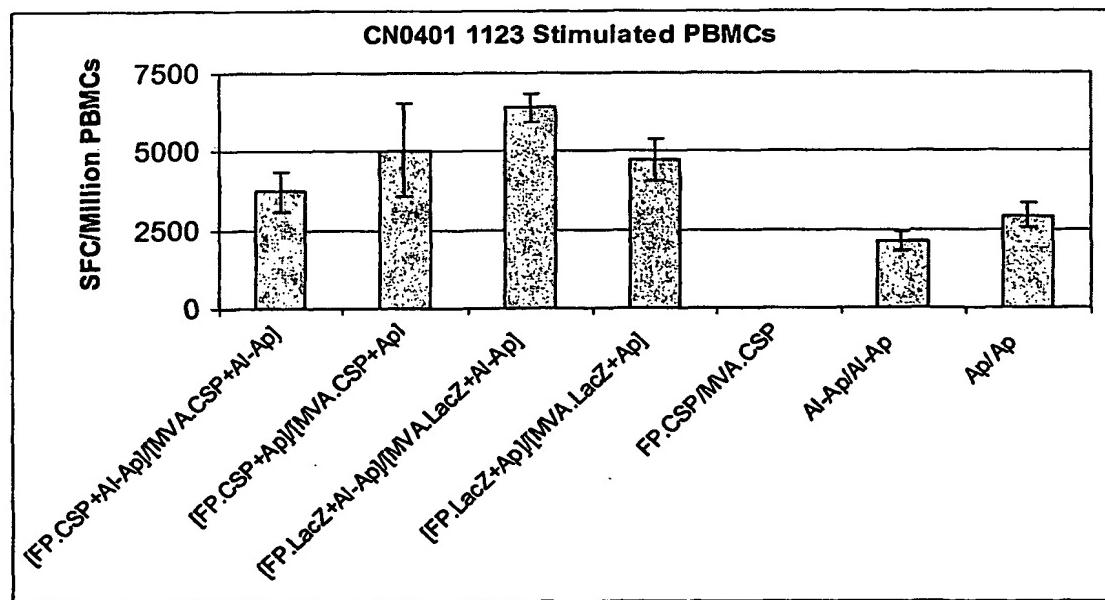


Figure 62

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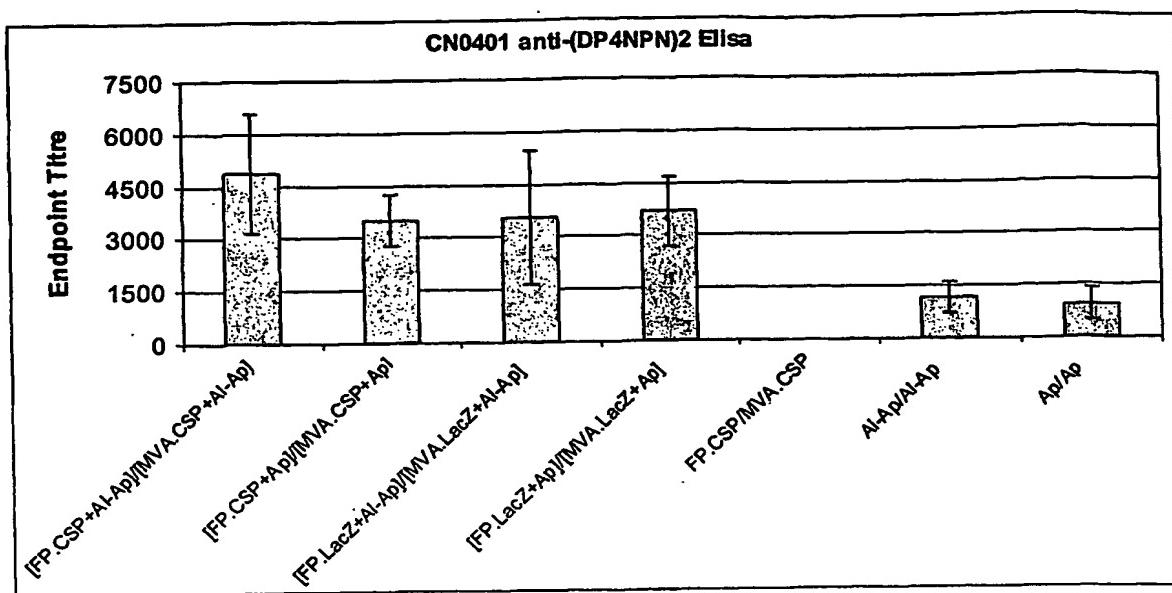


Figure 63

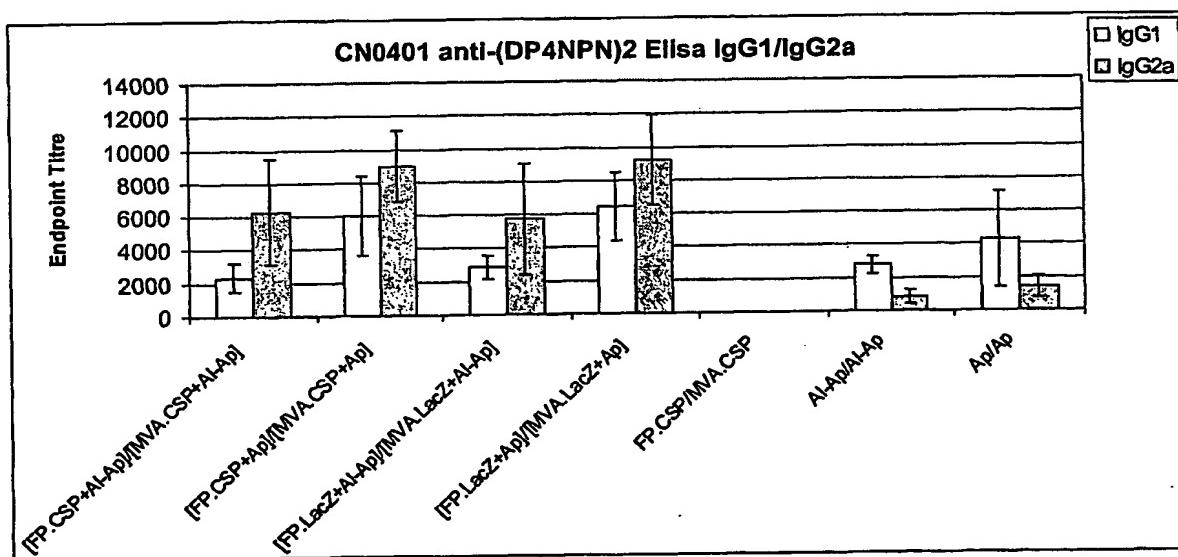


Figure 64

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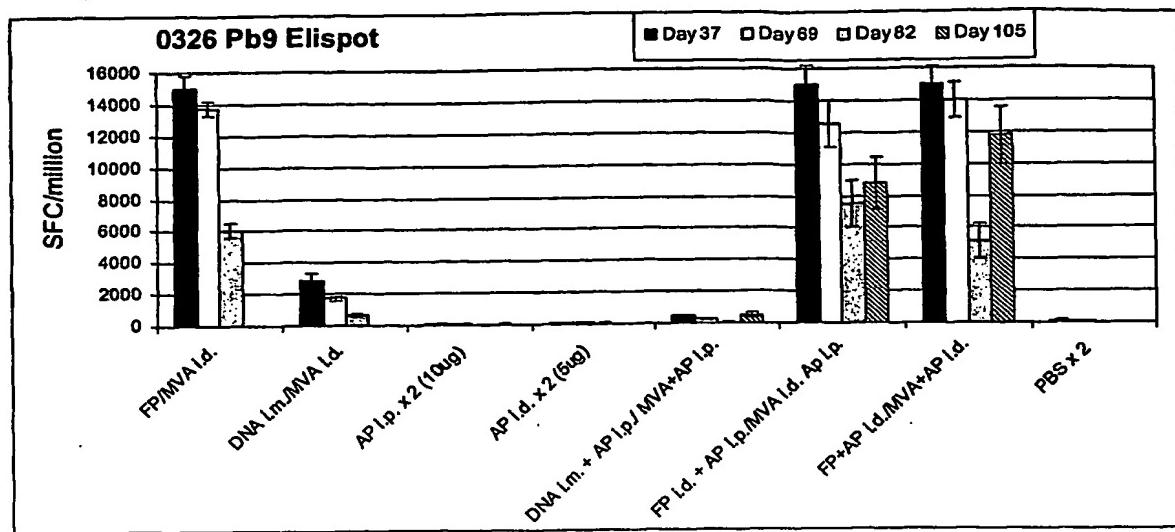


Figure 65

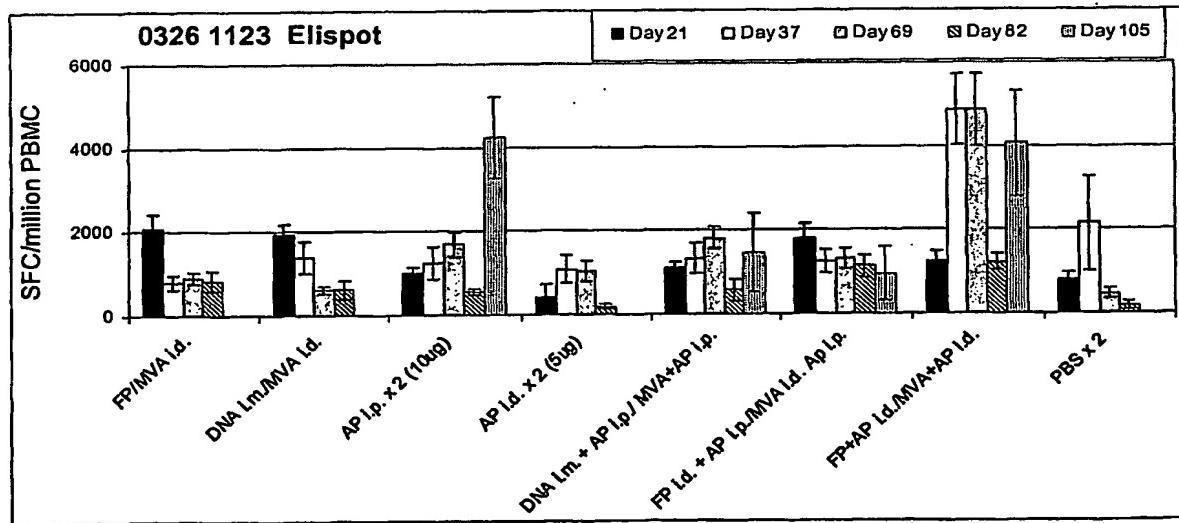


Figure 66

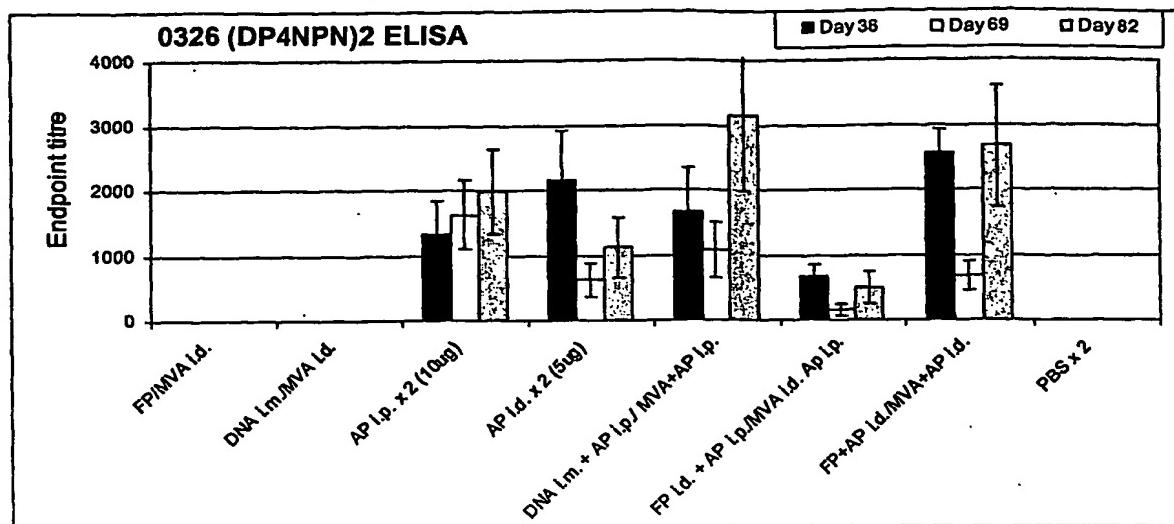


Figure 67

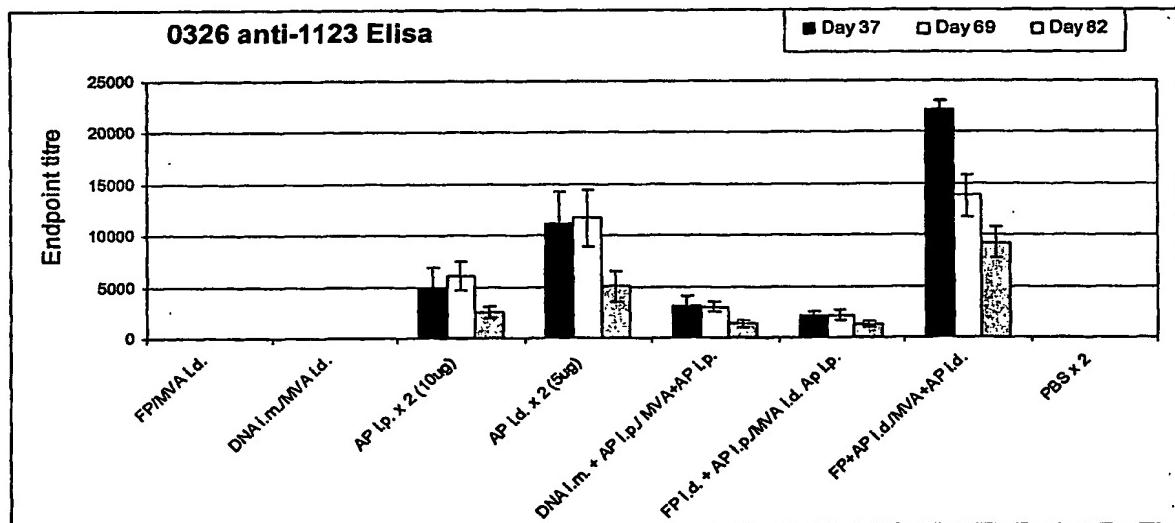


Figure 68

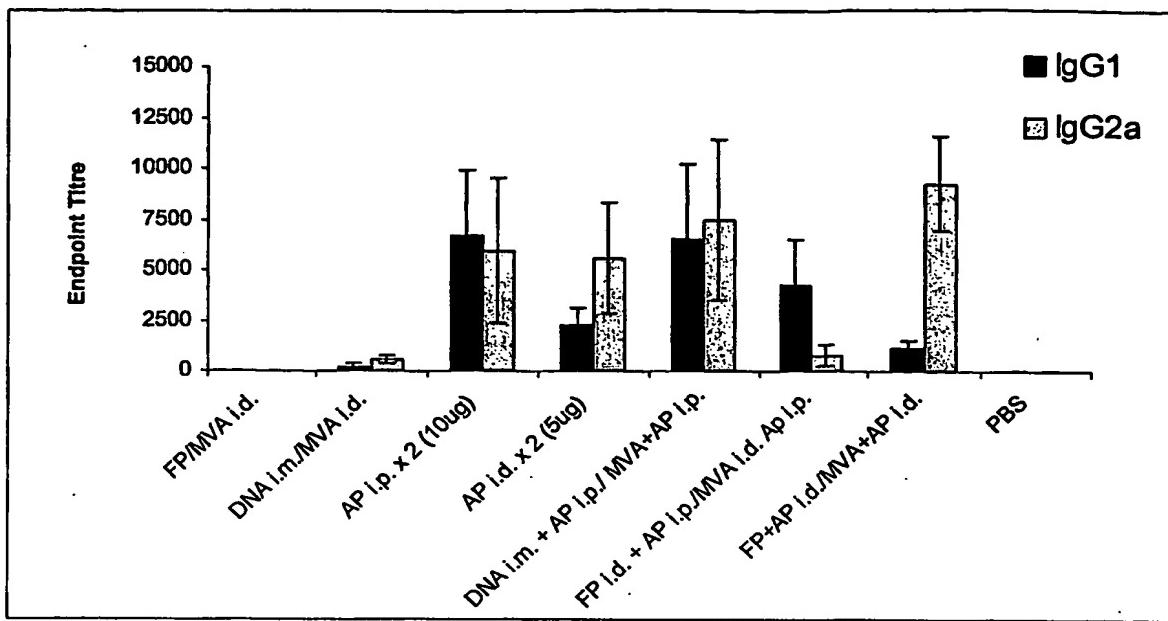


Figure 69